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G-56

ASSESSMENT OF EPSDT PRACTICES AND COST

FINAL REPORT

March 31, 1978

Medicaid Bureau  
Health Care Financing Administration  
Department of Health, Education, and Welfare

Information  
Resource  
Center

This report is made pursuant to Contract No. SRS-500-75-0019.

The amount charged to the department of HEW for the work resulting from this report is \$134,510.90.

Those with professional responsibility for this report were:

Douglas E. Skinner, Program Executive  
Daniel S. Levine, Project Director  
E. Lynne Jacobs, Project Manager

EPSDT 6.7



APPLIED  
MANAGEMENT  
SCIENCES

REPORTS  
RJ  
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A77  
1978



RJ  
102  
.A77  
1978

BLINDINGHOUSE

G-66

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#### ACKNOWLEDGEMENTS

In addition to the authors cited above, Richard A. Shepherd, Senior Systems Analyst, provided immeasurable data processing support. Overall direction and review was provided by Douglas E. Skinner, Senior Vice President and Daniel S. Levine, Ph.D., Project Director.

Applied Management Sciences wishes to express its appreciation to Ms. Joan Weinberg, Project Officer, and Mr. William Hickman, of the Social and Rehabilitation Service, for their assistance in the conceptualization, organization, and review of the report.



The following reports were prepared by Applied Management Sciences and submitted to the Office of Planning, Research, and Evaluation, Social and Rehabilitation Service, of DHEW under this contract.

Site Selection Report . . . . . July 16, 1975

Barrier Assessment Report . . . . . November 15, 1975

Best Practices Report . . . . . July 23, 1976

Methodological Report . . . . . November 18, 1976

Report on the Cost Impact  
of the EPSDT Program . . . . . December 10, 1976

Final Report . . . . . December 10, 1976

1974-1975 Analysis Report . . . . . June 7, 1977



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## SECTION I: INTRODUCTION

In the belief that provision of good health care will modify the problem of poverty, Title XIX of the Social Security Act was amended in 1967 to require all states with Medicaid programs to provide Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) services to Medicaid eligibles under 21 years of age. The EPSDT program was designed to detect health deficiencies at an early age and improve the health status of needy children. The objective of the program was to replace fragmented episodic or crisis medical care with an orderly system of preventive medical care within the Medicaid program.

Although the Department of Health, Education and Welfare had developed regulations for the program by 1971, states were reluctant to implement the program. Howard Newman, Commissioner of Medical Services Administration, noted to the National Health forum in 1974, that "the desire to provide a necessary and politically desirable service, and the competition for very limited resources prevented the early development of the EPSDT program." The final regulations imposed a two-stage implementation plan for the EPSDT program. In the first stage, only children under the age of six (6) years were to be screened. In the second stage, effective in July, 1973, children between the ages of six (6) and twenty-one (21) were required to be screened.

Even with the two-stage implementation plan, the states experienced financial difficulty with the EPSDT program. Costs of



medical care had risen dramatically for all Medicaid programs during the period 1968 to 1975. In 1968, total Medicaid provider payments were \$3,950 million. By 1975, there was an increase of about 225 percent in these costs, to \$12,950 million<sup>1/</sup>. Although the major proportion of this cost increase was due to rising prices for health care services, a large part of the cost increase was due to the growth of the beneficiary population. The National Center for Social Statistics estimated that there were approximately 13 million Medicaid recipients on whose behalf payments were made to medical providers. By 1975, the number of Medicaid recipients had increased 90 percent to 22.4 million. Of this number, 15.8 million were AFDC recipients and roughly 68 percent of that number, or about 10 million children in the AFDC population were eligible for screening under the EPSDT program. The cost impact of servicing such a large population on a repetitive basis, coupled with the external financial constraints facing most states because of demands in other sectors, left many states in an uneasy financial position concerning the operation of the EPSDT program.

An earlier study "Assessment of EPSDT Practices and Costs," conducted by Applied Management Sciences investigated four major Medicaid cost areas for the EPSDT program: State agency costs; local provider costs; local social service agency costs; and the costs of medical services in two states for two groups of EPSDT Medicaid eligibles--those with and without screening.

The results of the Medical care utilization analysis for the two groups of EPSDT Medicaid eligibles (screened and non-screened) indicated that screened persons used fewer physician office visits, fewer pharmaceutical prescriptions and fewer in-patient hospital days than did unscreened persons but used more

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<sup>1/</sup> DHEW, "Social and Rehabilitation Service, Fiscal Year 1975", Pub. No. SRS-76-04023.



dental procedures, had more clinic visits and used more optical services than unscreened persons. For several medical service categories screened persons used slightly more medical services in one state and less in the other. For the ten service types studied, expenditure differences between screened and unscreened Medicaid eligible groups in 1975 generally followed the utilization pattern in both states with the exception of the service type, physician office visits, in State 1. In both states the screened group had higher expenditures for dental and optometric services and clinic visits and lower expenditures for pharmaceutical prescriptions and inpatient hospital care.

### Design

The purpose of this study is to determine if the EPSDT program changes the cost and utilization of Medicaid medical services over time. The initial study cited above did not control for differences in incidence of medical care need due to population characteristics other than age and race, long term effects on medical needs due to health education, or the possible self-selection factors operating with the introduction of the program. To control for extraneous and unwanted sources of systematic variance in the study, and thus achieve the objective of clearly identifying the EPSDT impact on the utilization (and costs) of medical care, a non-equivalent control group design was used. The experimental and control groups were not randomly assigned by the experimenter, but were chosen from two pre-existing groups --those who were screened and those who were not screened by the EPSDT program between March, 1975 and February, 1976. This design is similar to a pretest-posttest control group design<sup>1/</sup>, differing only in the fact that random assignment is not specified by the experimenter. The design controls for the main effects of history,

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<sup>1/</sup> Campbell, D.T. and Stanley, J.C. Experimental And Quasi-Experimental Designs for Research. Rand McNally College Pub. Co., Chicago, 1963.





maturation and testing procedures. The differences in the period before and after the screening can be measured as percentage changes in utilization and cost. The effect of screening can be measured by the difference between utilization behavior changes between 1974 and 1975, and 1975 and 1976 of those who were screened in 1975 and those who were not screened.

In brief the design is:

	Pre-Screening Year <u>Jan-Dec 74</u>	Screening Period <u>Mar-Apr 75</u>	Screening Year <u>Mar 75-Feb 76</u>	Post-Screening Year <u>Mar 76-Feb 77</u>
(Experimental) screened	$Y_b$	(screened)	$Y_x$	$Y_a$
(Control) not-screened	$Y_b$	(not screened)	$Y_x$	$Y_a$

$Y_b$  = dependent variable (utilization and cost of Medicaid medical services) before the EPSDT screening

$Y_x$  = dependent variable the year the EPSDT screening occurred

$Y_a$  = dependent variable after the year the EPSDT screening occurred.

The longitudinal time period, which gives three point estimates of costs and utilization, allows the assessment of the difference in utilization trends between screened and unscreened children. If the differences in the point estimates are invariable over time, the EPSDT program may not influence the cost and utilization of Medicaid medical services. If the point estimates show a trend over time, the possibility exists that the EPSDT program is influencing utilization and cost patterns.

### Sample

Costs and utilization of medical services may vary as a function of age, race and urban-rural location. Therefore these variables were stratified in the design. The age breakdown used





was birth to six years of age and seven to twenty-one years of age. Race was broken down into white and non-white (other), and two locations were chosen; one a more urban, more industrial northeastern state and the other a more rural, less industrial southern state. The samples were randomly selected and proportionately stratified into the following strata.

State #1

White, 0-6, screened	37
White, 0-6, non-screened	37
White, 7-21, screened	131
White, 7-21, non-screened	131
Other, 0-6, screened	77
Other, 0-6, non-screened	77
Other, 7-21, screened	555
Other, 7-21, non-screened	555

State #2

White, 0-6, screened	81
White, 0-6, non-screened	81
White, 7-21, screened	173
White, 7-21, non-screened	173
Other, 0-6, screened	179
Other, 0-6, non-screened	179
Other, 7-21, screened	367
Other, 7-21, non-screened	367

The determination of screened versus non-screened status was not under the control of the experimenter. Anecdotal information indicated that in one state (the industrial state) the EPSDT program preferentially selected infrequent medical users



for screening in the belief that these eligibles might have been underserved. Therefore, it cannot be assumed that self-selection alone led to participation in the screening process.

### Data Collection

The first step for developing a study sample for 1974-1976 was to obtain identification numbers for Medicaid eligible children in each state from 1975 eligibility files. The study identification numbers for those in the screened and unscreened samples were obtained on the basis of random selection. Both states supplied either lists or ADP (Automated Data Processing) files from which Applied Management Sciences randomly selected eligibles who were screened and who were not screened. A ten percent oversample was developed for 1975 data for each state. This oversampling was done to compensate for anticipated losses which might occur because of loss of eligibles in both the experimental (screened) and control (unscreened) groups due to inability to trace them after changes in eligibility or relocation. The oversampling was sufficient to maintain a comparable sample population over the period of 1974-1976. These case numbers were used to identify and obtain the 1975 Medicaid case histories for these children which were analyzed in a prior report.

The second step was to use the identification numbers obtained during collection of data for the screening year, 1975, to obtain data for the prescreening year, 1974. The identification numbers used to obtain the 1975 data were traced back to obtain the 1974 data for the same individuals, in both the screened and the unscreened categories.

Finally, the three-year data set was completed by using these same source identification numbers to obtain 1976 claims records for screened and unscreened children in the two study states.

The Medicaid claims files from the two states were made available in different formats. One state provided hard-copy computer printouts and the other state made the claims data available on microfilm.



These data were then manually abstracted to insure that service use was categorized in a compatible fashion in both states. Ten Medicaid services categories were specified for abstracting these cost and utilization data. They were: 1) Physician Office Visits; 2) Pharmaceutical Prescriptions; 3) Dental Procedures; 4) Outpatient Hospital Visits; 5) Physician Other Visits; 6) Outpatient Clinic Visits; 7) Inpatient Hospital Days; 8) Physician Emergency Visits; 9) Optical Service Visits and 10) Other Service Units. Exhibit 1.1 contains a copy of the abstracting form used for data reduction.

### Data Analysis

The data for 1976 were abstracted in accordance with the procedures used for the 1974 and 1975 claims data.\* Appropriate data elements for all three years were keypunched and key verified in order to produce estimates of the variance for per capita utilization and expenditures by type of service and for all services. Further, the analytical tables and discussions outlined below have been prepared in this report for the samples in each year. For tables indicating percent changes between 1974 and 1976, additional analyses (cross-sectional and time series) have been prepared for those persons who maintained continuous eligibility over the entire three-year period. These eligibles were determined by matching recipient I.D. numbers and months of eligibility across all three years on the eligibility files.

In general, the data analysis effort follows the format used in the 1975 Cost Impact Report and the 1974-1975 Analysis Report previously submitted to SRS. However, to facilitate a comparison of the utilization and expenditure findings for each state, the following issues have been explored:

- Analysis of the impact of EPSDT on the utilization of medical services under Medicaid, specifically:
  - .. Noting the effect of EPSDT on historical patterns of care (for example, inpatient as opposed to ambulatory care);

\*See Applied Management Sciences "1976 Data Condition Report", submitted September 21, 1977.





MEDICAID PROGRAM  
SERVICE ABSTRACT  
(G-66)

STRATUM #

5

MEDICAL SERVICE CATEGORY

CODE      UNITS      PAYMENT  
6      7      9      10      15

Physician Office Visit  
(# of Visits)

0								
0								
0								
0								
0								
0								

Pharmacy/Drug  
(# of Prescriptions)

1								
1								
1								
1								
1								
1								
1								
1								
1								
1								
1								
1								

Dental  
(# of Procedures)

2								
2								
2								
2								
2								
2								

Outpatient Hospital Visit  
(# of Visits)

3								
3								
3								
3								
3								
3								

MEDICAL SERVICE CATEGORY

CODE	UNITS			PAYMENT					
6	7	9	10	15					

Physician Other Visit  
(# of Visits)

4

4

4

4

4

4

Outpatient Clinic  
(# of Visits)

5

5

5

5

5

5

Inpatient Hospital Days  
(# of Days)

6

6

6

6

6

6

Physician Emergency Visit  
(# of Visits)

7

7

7

7

7

7

Optometric Services  
(# of Service Dates)

8

8

8

8

8

8

Other Services

9

9

9

9

9



- .. Comparing the size of population strata to service utilization intensity;
- .. Noting the areas where utilization impacts seem to balance (e.g., a positive impact in one service category countered by a negative impact in another category);
- .. Noting the occurrence of significant changes in type or intensity of service utilization by service category or population stratum;
- .. Analyzing the number of Medicaid claims by screening status, noting the percentage of eligibles in the sample with no claims and ascertaining whether individuals with no claims in 1974 were introduced into the health care system by EPSDT.
- Analysis of the impact of EPSDT on the expenditures for medical services under Medicaid, specifically:
  - .. Comparing the size of population strata to expenditures for their services;
  - .. Noting areas where cost impacts seem to balance (e.g., a positive impact in one service category countered by a negative impact in another category);
  - .. Comparing utilization and expenditure impacts: do they move in similar directions and magnitudes?;
  - .. Analyzing costs per unit of service in terms of consistencies between screened and unscreened eligibles.

In addition, the following time series analysis have been completed:

- Analysis of the impact of EPSDT on Medicaid eligibles over time, addressing each of the following questions:
  - .. Does the EPSDT sample population maintain eligibility over time?
  - .. Are systematic trends exhibited over time or are the differences the result of random occurrences?
  - .. Does EPSDT participation reflect a self-selection process? If so, is this exhibited by high or low utilizers of services?
  - .. Does the screening process have a reactive effect over time?
  - .. Has EPSDT caused eligibles to change patterns of care over time?



The table shells for the longitudinal analysis are similar to those used for each individual year, except that the table incorporates the changes over a three year period. These analytical tables were used to produce an expanded version of the EPSDT cost impact report. The findings and conclusions are herewith submitted in this Final Report.

### Overview of the Final Report

The structure of this report consists of four major sections and three appendices:

- Section I: Introduction - This section describes the methodology utilized to design the study and to gather and analyze the data.
- Section II: State 1 - The Impact of EPSDT on Utilization and Expenditures of Medical Services under Medicaid - The findings and conclusions relating to medical services utilization and expenditures impact are discussed with presentation of the findings in tabular form where appropriate.
- Section III: State 2 - Impact of EPSDT on Utilization and Expenditures of Medical Services under Medicaid (To facilitate the analysis, the findings for State 1 and State 2 have been presented separately in the Final Report.)
- Section IV: Comparison of Findings for State 1 and State 2 - This section includes a summary and comparison of the findings outlined in Sections II and III.
- Appendix A: Utilization and Expenditure Tables for the Sample Population in States 1 and 2: 1976 - Included here are the raw data tables for 1976, used to compute the percent change tables presented in Sections II and III.
- Appendix B: Utilization and Expenditure Tables for the Sample Population in States 1 and 2: 1974 - These tables were fully analyzed in the 1974-1975 Analysis Report and are presented here for reference purposes.
- Appendix C: Utilization and Expenditure Tables for the Sample Population in States 1 and 2: 1975 - These tables were fully analyzed in the 1974-1975 Analysis Report and are presented here for reference purposes.



## SECTION II: STATE 1 - IMPACT OF EPSDT ON UTILIZATION AND EXPENDITURES FOR MEDICAL SERVICES UNDER MEDICAID

*In this report, data are presented from the years prior to and following EPSDT screening, as well as the year of screening itself, and are analyzed in terms of percentage changes between the years: 1974 to 1975; 1975 to 1976; and 1974 to 1976. The percent-change data are displayed by ten service classifications which are aggregated into five general categories to facilitate analysis. The raw data from which the percentages were calculated are presented in the appendices for reference purposes. These tables indicate levels of utilization and expenditures by each of the four recipient groups (white, aged 0-6; white, aged 7-21; non-white, aged 0-6; and non-white, aged 7-21) as well as by screening status. Utilization has been specified in units, such as visits, days, prescriptions, etc., for each medical service category, and is defined as a Medicaid payment for one unit of any medical service type.*

*In State 1, members of the EPSDT sample demonstrated increases in their utilization of each of the ten medical service classifications from the year prior to screening (1974) and the screening year itself (1975). Members of the non-EPSDT sample, however, exhibited an equal number of increases and decreases in service utilization in the same time period. The percentage increases demonstrated by the screened (EPSDT) sample were greater than those by the unscreened (non-EPSDT) sample in all categories except Other Service Units. Due to the heterogeneity of services contained in the Other Services category, however, this does not necessarily imply a trend-reversal. Percentage increases in medical expenditures from 1974 to 1975 were also greater for screened than unscreened persons in each of the ten service categories. Fluctuations in expenditure levels largely paralleled changes in rates of utilization in both the screened and the unscreened groups, with occasional discrepancies caused by variations in unit costs.*





From the year of screening (1975) to the following year (1976), members of the State 1 EPSDT sample exhibited decreases in service utilization in all ten categories with the exception of Out-patient Clinic Visits. In this area, continued increases in service use were primarily caused by follow-up screenings conducted in 1976 by State 1. Members of the non-EPSDT sample exhibited a general trend of decreased medical service utilization from 1975 to 1976; however, increases occurred in four of the ten service classifications. In the five general service categories, decreases in service use by screened persons were greater than those by unscreened persons in all but the General Outpatient Services category. The expenditure data largely paralleled the utilization findings for both sample groups. The screened sample experienced a greater percentage decrease in expenses for all combined medical services than the unscreened sample (23 percent versus 10 percent) from 1975 to 1976.

The data for the period from 1974 to 1976 show a trend of higher percentage increases in the utilization of medical services by screened than unscreened persons. This was not the case, however, in the categories of Dental and Optical Services and Other Service Units. Higher percentage increases in expenditures were exhibited by screened than unscreened individuals in each of the five general medical service categories. Unit costs did not vary substantially between the two sample groups within the five general categories, with the exception of Other Service Units.

In terms of the actual per capita data, members of the State 1 EPSDT sample exhibited lower utilization figures than members of the non-EPSDT sample in 1974 in all but the Other Service Units category, where per capita utilization was on a par. Utilization in 1974 was significantly lower in a statistical sense by screened than unscreened persons in the categories of General Outpatient Services, Pharmaceutical Prescriptions, and All Services. In the remaining three service categories (Inpatient-Related, Dental and Optical, and Other Services), the difference in utilization between the two samples was not statistically significant in 1974. Per capita expenditures were also lower in each of the five general service categories for members of the EPSDT sample than for members of the non-EPSDT sample in the pre-screening year. The difference in expenditure levels between the two samples was statistically significant (at the .01 level) only in the categories of Pharmaceutical Prescriptions and Total, All Services in 1974.

In the year that screening took place, per capita utilization levels were higher for screened than unscreened persons for all combined medical services, and in the categories of Inpatient-Related Services (not a statistically significant difference) and Dental and Optical Services (a highly significant difference - at the .01 level). In the Outpatient Services category, per capita





utilization was slightly lower by screened than by unscreened persons. The use of pharmaceuticals was significantly lower (at the .01 level) by screened than unscreened individuals in 1975 (as was the case in 1974). The screened sample exhibited lower per capita utilization of Other Service Units in 1975 than the unscreened sample, but the difference was not statistically significant.

The per capita expenditure data in 1975 exhibited the same characteristics as the utilization findings, with statistically significant differences occurring in the same service categories. In the category of General Outpatient Services, although per capita utilization was slightly lower for the screened than the unscreened group, expenditures by screened persons were slightly higher. In the Inpatient-Related Services category, utilization by screened persons was higher than by unscreened persons, but per capita expenditures were lower. In none of these cases, however, were the differences between the EPSDT and the non-EPSDT samples statistically significant.

In the year following the implementation of EPSDT, the rates of utilization of General Outpatient Services by the screened and the unscreened samples were comparable. The difference in utilization rates in this category between the two samples was no longer statistically significant in 1976, as it had been in 1974. The use of Pharmaceutical Prescriptions in 1976 was significantly lower by screened than unscreened persons (at the .01 level), as had been the case in both 1974 and 1975. Inpatient-Related service utilization was slightly higher by screened than unscreened persons in the post-screening year, but the difference was not statistically significant. In the category of Dental and Optical Services, the EPSDT sample used significantly fewer services in 1976, as opposed to having used significantly more services in 1975 (in both years, significance was at the .01 level). Utilization of Other Service Units in 1976 was almost the same as in 1975 by both samples, with screened persons exhibiting slightly lower rates than unscreened persons (though not significantly lower). The overall use of all combined Medicaid medical services in State 1 was significantly lower (at the .01 level) by the EPSDT sample than by the non-EPSDT sample in 1976.

Per capita expenditures in the post-screening year were lower for screened than unscreened persons in all medical service categories with the exception of General Outpatient Services. The difference in expenditure levels between the screened and the unscreened samples was statistically significant only in the category of Pharmaceutical Prescriptions. In terms of all combined Medicaid medical services, the per capita expenditures exhibited by screened persons in 1976 were basically on a par with those exhibited by unscreened persons, although screened individuals used significantly fewer services in the same year (1976). This suggests that members of the EPSDT sample in State 1 were using more expensive services



than members of the non-EPSDT sample in the post-screening year. In fact, the per capita unit cost of all combined medical services was \$15.50 in the screened sample and \$13.96 in the unscreened sample, a difference of 11 percent.

The data for State 1 covering the three-year study period are presented in greater detail in the following pages of the report and are further analyzed and interpreted.



## Service Categories

The data in this report have been classified into ten medical service types which comprise five major categories. Capsule descriptions of these service classifications are herewith presented to facilitate uniform interpretation of the data.

### I. General Outpatient Services

- Physician Office Visits - four types of services are included in this category: physician office visits, physician billed x-ray procedures, physician billed laboratory procedures, and physician billed injections. When more than one of these service types is provided by a single physician to one patient on the same day and one of these services is an office visit, only the office visit is counted as a utilization unit. When no office visit is recorded but other services included in this category are performed, all of those services performed on one date are considered to be part of one office visit.
- Outpatient Hospital Visits - individual visits to hospital outpatient departments. As in the case of physician office visits, all procedures billed separately by the hospital on the date of the outpatient visit are considered to be elements of that visit and are not separately enumerated. However, where x-rays, laboratory procedures, and injections are billed to Medicaid by individual physicians they have been recorded as physician office visit components even when we suspect that they were part of the outpatient hospital visit encounter. Certain other individual physician billed procedures which may have been associated with a hospital outpatient department visit have been recorded as Physician Other Visits as we cannot be certain that they indeed were associated with hospital outpatient visits.
- Outpatient Clinic Visits - clinic services provided to one patient on one day but not billed as a physician visit.
- Physician Emergency Visits - visits billed by physicians for emergency care largely in hospital emergency rooms.





## II. Pharmaceutical Prescriptions

- Pharmaceutical Prescriptions - new and refilled prescriptions. Each medication is counted as a service unit whether or not multiple medications have been ordered on a single prescription.

## III. Inpatient-Related Services

- Inpatient Hospital Days - hospital days billed to Medicaid (admission date subtracted from discharge date).
- Physician Other Visits - individual physicians' services except physicians' office, emergency care, and ophthalmologists' services. When a physician service is performed during a period of hospitalization, regardless of the procedure, it is considered a physician other visit. The vast majority of physician other visits, in fact, do occur during hospitalization.

## IV. Dental and Optical Services (services to which referrals are emphasized within the EPSDT program)

- Dental Procedures - individual dental procedures such as x-ray, extractions, filled cavities and dental education sessions.
- Optical Service Visits - services performed on a single day by one provider for one patient and billed to Medicaid as having been for eye services. We have grouped the services of ophthalmologists, optometrists, opticians, and corporate providers of vision services in this category.

## V. Other Service Units

- Other Service Units - a general category that contains ambulance trips, prosthetic devices, nursing home days, laboratory services billed by independent laboratories, and other services which are not included in the other nine service categories.

## UTILIZATION OF MEDICAID MEDICAL SERVICES IN STATE 1

The utilization findings for State 1 are displayed in the first three rows of Tables 2.1 and 2.2. These values represent percentage



TABLE 2.1: PERCENTAGE CHANGE IN UTILIZATION PER CAPITA, COST PER CAPITA, AND COST PER UNIT OF SERVICE BETWEEN 1974, 1975, AND 1976 - STATE 1, EPSDT SAMPLE POPULATION\*

DATA GROUP	PERIOD OF SERVICE	SERVICES												TOTAL ALL SERVICES	
		General Outpatient Services					RX	Inpatient Related		Dental & Optical		Other Service Units			
		Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	T O T A L		Pharma- ceutical Prescrip- tions	Physician Other Visits	Inpatient Hospital Days	Dental Procedures		Optical Service Visits		T O T A L
UTILIZATION/ CAPITA	1974-1975	44%	93%	50%	175%	53%	15%	195%	18%	84%	185%	64%	178%	380%	82%
	1975-1976	-18%	-18%	90%	-30%	-3%	-15%	-32%	-33%	-33%	-50%	-48%	-50%	-31%	-29%
	1974-1976	18%	58%	185%	92%	48%	-2%	99%	-21%	24%	43%	-14%	40%	230%	29%
COST/CAPITA	1974-1975	52%	127%	27%	217%	71%	25%	115%	35%	56%	154%	89%	146%	374%	79%
	1975-1976	-18%	-3%	90%	9%	1%	-11%	-23%	-16%	-19%	-55%	-39%	-54%	-7%	-23%
	1974-1976	25%	120%	141%	245%	73%	11%	66%	13%	27%	13%	15%	14%	341%	38%
COST/UNIT OF SERVICE	1974-1975	6%	17%	-15%	15%	11%	8%	-27%	15%	-15%	-11%	15%	-12%	-1%	-2%
	1975-1976	1%	18%	0%	56%	5%	4%	15%	25%	21%	-11%	18%	-8%	35%	8%
	1974-1976	7%	39%	-15%	80%	16%	13%	-17%	43%	2%	-21%	35%	-19%	34%	7%

\*Positive figures indicate an increase from year to year, whereas negative figures indicate a decrease.



TABLE 2.2: PERCENTAGE CHANGE IN UTILIZATION PER CAPITA, COST PER CAPITA, AND COST PER UNIT OF SERVICE BETWEEN 1974, 1975, AND 1976 - STATE 1, NON-EPSDT SAMPLE POPULATION\*

DATA GROUP	PERIOD OF SERVICE	SERVICES													TOTAL ALL SERVICES	
		General Outpatient Services					RX	Inpatient Related			Dental & Optical		Other Service Units			
		Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	T O T A L		Pharma- ceutical Prescrip- tions	Physician Other Visits	Inpatient Hospital Days	T O T A L	Dental Procedures		Optical Service Visits		T O T A L
UTILIZATION/ CAPITA	1974-1975	30%	49%	-2%	-63%	28%	-7%	50%	-24%	-4%	73%	-22%	66%	2971%	27%	
	1975-1976	-19%	14%	-4%	86%	-12%	-6%	-15%	-20%	-18%	-9%	12%	-8%	12%	-9%	
	1974-1976	5%	69%	-5%	-32%	13%	-13%	28%	-39%	-21%	57%	-12%	52%	3343%	15%	
COST/CAPITA	1974-1975	18%	92%	-2%	-61%	34%	-10%	3%	9%	8%	67%	-21%	54%	171%	25%	
	1975-1976	-14%	23%	18%	92%	2%	4%	-9%	-16%	-14%	-31%	15%	-28%	52%	-10%	
	1974-1976	1%	137%	16%	-24%	37%	-6%	-6%	-8%	-7%	15%	-9%	11%	311%	12%	
COST/UNIT OF SERVICE	1974-1975	-9%	29%	0%	7%	5%	-3%	-31%	45%	13%	-3%	1%	-7%	-91%	-2%	
	1975-1976	5%	8%	22%	4%	16%	11%	7%	5%	4%	-24%	2%	-21%	35%	-1%	
	1974-1976	-4%	40%	22%	11%	22%	8%	-26%	52%	17%	-27%	3%	-27%	-88%	-3%	

\*Positive figures indicate an increase from year to year, whereas negative figures indicate a decrease.





changes in the utilization of medical services between 1974 and 1975, 1975 and 1976, and the overall change from 1974 to 1976. Table 2.1 displays figures for the EPSDT (screened) sample population and Table 2.2 displays figures for the non-EPSDT (unscreened) sample. To control the independent variable (EPSDT Program) and to insure comparability between years, all 1974 and 1976 data were adjusted for individuals with partial years of eligibility. For example, individuals who were eligible for a six-month period would have each unit of service tallied as two units (with corresponding adjustments made to the expenditure findings). Data from 1975 did not require adjustments of this nature as the 1975 sample was selected on the basis of a 12-month eligibility period. Values on Tables 2.1 and 2.2 for 1974, 1975, and 1976 were computed from the utilization (and expenditure) data for 800 members of the EPSDT (screened) subgroup and 800 members of the non-EPSDT (unscreened) subgroup. As seen on the raw data tables in Appendices A, B and C, the sample size was also maintained by stratum (the four age/race categories) in all three years.

In order to facilitate comparative analyses in this section of the report, per capita utilization figures from the raw data tables in the appendices have been presented on Table 2.3 for the five general medical service categories. These figures will be discussed briefly when it is necessary to put the percentage change data into perspective. For example, although the screened sample may show a much larger percentage increase than the unscreened sample in the use of a particular medical service type from one year to the next, the actual per capita figures may indicate lower utilization by screened than unscreened persons in the same time period. This is, in fact, seen to be the case in the category of General Outpatient Services between 1974 and 1975.

The total percentage change for All Services, shown in the right-hand margin of Tables 2.1 and 2.2 and the total units for All Services, displayed on Table 2.3, should be interpreted with care as the units used to account for individual services differ significantly





TABLE 2.3: PER CAPITA MEDICAID UTILIZATION BY THE SAMPLE POPULATION  
IN STATE 1, BY MAJOR MEDICAL SERVICE CATEGORY AND YEAR OF SERVICE  
(ADJUSTED FOR PARTIAL YEARS OF ELIGIBILITY)

MEDICAL SERVICES										
YEAR	General Outpatient		Prescriptions		Inpatient-Related		Dental & Optical		Other Services	
	EPSDT	Non- EPSDT	EPSDT	Non- EPSDT	EPSDT	Non- EPSDT	EPSDT	Non- EPSDT	EPSDT	Non- EPSDT
1974	1.86**	2.31**	1.76**	2.83**	0.49	0.67	1.75	2.21	0.01	0.01
1975	2.84	2.95	2.02**	2.63**	0.91	0.65	4.87**	3.67**	0.06	0.27
1976	2.76	2.60	1.72**	2.46**	0.61	0.53	2.45**	3.37**	0.04	0.30
									5.86**	8.03**
									10.70	10.17
									7.58**	9.26**

\* Difference between EPSDT and non-EPSDT sample members is statistically significant at the .05 level.

\*\* Difference between EPSDT and non-EPSDT sample members is statistically significant at the .01 level.



from each other by nature. For example, one inpatient hospital day is given the same weight in the total column as one dental bitewing x-ray, although the cost of the first averages \$100 and that of the second is usually less than \$5. It must also be considered that a bitewing x-ray is a routine diagnostic procedure while a hospital day is not a routine occurrence in general medical care for children.

The analysis which follows discusses the ten service classifications by the five general categories outlined above. Only in those cases where the figures appear to deviate from the general pattern will individual service classifications be discussed separately. The discussion which follows deals solely with the utilization findings for State 1. The expenditure and unit cost findings will be presented and integrated with the utilization data in subsequent sections.

#### General Outpatient Services

Members of the EPSDT (screened) sample in State 1 exhibited a 53 percent increase in utilization of General Outpatient Services from 1974, the year prior to screening, to 1975, the year that EPSDT screening took place. From 1975 to 1976, the overall utilization rate showed a decrease of 3 percent, resulting in a net increase of 48 percent between 1974 and 1976. The non-EPSDT (unscreened) sample demonstrated a similar utilization pattern, though the overall percent difference was not as great. Members of the non-EPSDT group had a 28 percent increase in outpatient service utilization from 1974 to 1975, and a 12 percent decrease from 1975 to 1976, resulting in a 13 percent increase from 1974 to 1976.

The larger increase in General Outpatient Service utilization exhibited by the screened group from 1974 to 1975 can be attributed to the actual screening procedure. Though the data indicate a slight decrease (3 percent) in utilization from 1975 to 1976 by the screened group, the fact that the unscreened group exhibited an even greater decrease (12 percent) in utilization in the same time period indicates that screened people were still using relatively more outpatient



services than unscreened people in the year following screening, though somewhat fewer than in the year that screening took place.

In order to better understand the percentage changes in outpatient utilization for the EPSDT and non-EPSDT samples, it is instructive to examine the actual rates of use (see Table 2.3). In the year prior to screening, the EPSDT group had significantly fewer General Outpatient visits than did the non-EPSDT group (1.86 vs. 2.31 visits per capita, respectively). In 1975, the year in which screening services were received, the EPSDT sample had a utilization rate of 2.84 outpatient visits per capita. Moreover, the EPSDT rate was not significantly different (albeit somewhat lower) from the rate (2.95) of the non-EPSDT sample. Further, in the post-screening year (1976), the per capita use of outpatient services by the EPSDT sample (2.76) was also not significantly different from that of the non-EPSDT sample (2.60). Overall, it appears that the EPSDT sample was stimulated by the screening process into raising their utilization of outpatient services to a level comparable to that of the non-EPSDT control sample.

By constituent service classification, the tendency toward decreased General Outpatient Service utilization by the EPSDT group from 1975 to 1976 was consistent for all but Outpatient Clinic Visits. In this case, there was a continued high utilization of clinic visits in the year after screening. This can be explained by the fact that EPSDT screening took place exclusively in outpatient clinics in State 1, thereby introducing many individuals to the clinic setting as a health care provider. There was also an indeterminate number of follow-up screening visits conducted in 1976, in accordance with the guidelines of the EPSDT program, which would also cause an increase in utilization of clinic services in State 1.

In the category of Physician Emergency Visits, the percentage change in utilization between the study years appears quite substantial for members of both the EPSDT and the non-EPSDT samples. The







significance of these figures is lessened, however, by the comparatively low number of total services in this category: 12, 33, and 23 visits by the screened sample in 1974, 1975, and 1976, respectively, and 19, 7, and 13 visits by the unscreened sample (see Tables A.1, B.1, and C.1 in the Appendices).

### Pharmaceutical Prescriptions

From 1974 to 1975, members of the State 1 EPSDT sample showed a 15 percent increase in the utilization of Pharmaceutical Prescriptions. From 1975 to 1976, however, there was a 15 percent decrease in the utilization of this service, resulting in a net decrease of 2 percent from 1974 to 1976. The unscreened sample exhibited decreases in both periods (7 percent from 1974 to 1975 and 6 percent from 1975 to 1976), with an overall decrease in the use of prescriptions of 13 percent in the three-year study period. This lower utilization rate by the control (unscreened) group from 1974 to 1975 increases the significance of the higher usage of prescriptions by the screened group in the same time period. The data indicate that EPSDT screening had the initial effect of increasing the use of Pharmaceutical Prescriptions in the year that screening took place. As maladies identified by the screening process were treated, the utilization rate of prescriptions decreased, indicating that, at least in the short run (one year after screening), EPSDT screening had no permanent effect on the usage rate of Pharmaceutical Prescriptions.

### Inpatient-Related Services

In State 1, members of the EPSDT (screened) sample used a total of 84 percent more Inpatient-Related services in 1975 than in 1974, whereas members of the non-EPSDT (unscreened) sample used 4 percent fewer services in the same time period. Between 1975 and 1976, individuals in the screened sample exhibited a 33 percent decrease in the use of Inpatient-Related services and those in the unscreened sample exhibited an 18 percent decrease. The overall figures for 1974 to 1976 indicate a 24 percent increase in inpatient service utilization by the EPSDT sample and a 21 percent decrease by the non-EPSDT sample.



Within the EPSDT sample, the majority of the increase in service utilization from 1974 to 1975 can be attributed to the large increase (195 percent) in the category of Physician Other Visits. The non-EPSDT sample also exhibited an increase in service utilization in this category, though it was not as substantial. As the majority of Physician Other Visits occurred during inpatient hospital stays, the higher utilization of these services by screened individuals indicates that the content of inpatient care for those in the screened sample was much more intensive than that for members of the unscreened sample. The 32 percent decrease in the use of Physician Other Visits parallels the 33 percent decrease in the use of Inpatient Hospital Days by screened individuals between 1975 and 1976. This suggests that the initial increased hospitalization among the screened (from 1974 to 1975), evidently due to efforts to repair neglected health impairments, began to show a decrease in the year following screening as these health impairments were treated. As the utilization of inpatient hospital stays decreased, the use of Physician Other Visits, largely in-hospital services, decreased proportionately.

In analyzing the data for the EPSDT sample, it initially appears that screening promoted more of a growth in outpatient than in inpatient care. When compared to the findings for the non-EPSDT control group, however, just the opposite is seen to be true. The overall 21 percent decrease in the utilization of inpatient services by the control group from 1974 to 1976 serves to increase the significance of the 24 percent increase in this area by the screened sample. At the same time, the 13 percent increase in outpatient service utilization by the control group lessens the impact of the 48 percent increase by the screened sample. The resulting figures, therefore, indicate a net increase of 35 percent in the utilization of outpatient services by the screened sample and a 45 percent increase in the utilization of inpatient services. This suggests that the short-term (one year after screening) impact of EPSDT in State 1 is initially





greater in the area of inpatient services (most likely due to the identification of previously neglected health impairments).

In terms of the actual per capita utilization rates, the figures for Inpatient-Related Services are seen to be comparatively low for both screened and unscreened persons (see Table 2.3). This tends to decrease the significance of the percentage change data exhibited on Tables 2.1 and 2.2, however the trends remain noteworthy. While the control group demonstrated a steady decline in the use of Inpatient-Related Services, members of the experimental group showed a sharp increase in their inpatient service use in the year of screening and a decrease in the year after screening. In 1974, members of the screened sample used 27 percent fewer inpatient services than members of the unscreened sample (Table C.5), but in 1976, they used 15 percent more inpatient services (Table A.5). This implies that, in terms of Inpatient-Related Services, EPSDT may be successfully introducing low users into the health-care system in State 1. However, it should also be noted that there were no statistically significant differences in the per capita Inpatient-Related utilization rates over the three year period.\* Accordingly, the apparently opposite trends in inpatient utilization for the EPSDT and non-EPSDT groups may be due to random variation rather than to EPSDT impacts.

#### Dental and Optical Services

Members of the EPSDT sample in State 1 exhibited a 178 percent increase in the utilization of Dental and Optical procedures from 1974 to 1975. Between 1975 and 1976, the utilization rates showed a decrease of 50 percent, resulting in a net increase of 40 percent between 1974 and 1976. The utilization pattern exhibited by members of the non-EPSDT sample was similar, though the changes were not as

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\* The component Inpatient-Related utilization rates (i.e., Physician Other Visits and Inpatient Hospital Days) were also not significantly different between the EPSDT and non-EPSDT groups in any year with one exception. That is, the EPSDT utilization rate for Physician Other Visits in the year of screening (1975) was almost 100 percent higher than the non-EPSDT rate (i.e., 0.55 vs. 0.28, respectively).





marked. Between 1974 and 1975, the control group showed a 66 percent increase in the use of Dental and Optical services in State 1. From 1975 to 1976, the year after screening, there was an 8 percent decrease in the use of these services, yielding a net increase of 52 percent from 1974 to 1976.

For both screened and unscreened eligibles, these figures are largely due to the greater utilization of dental services. Although the percentages indicated in the category of Optical Services also deserve consideration, the total units of service occurring in this category were relatively low and, therefore, do not carry as much weight (see Tables A.1, A.2, B.1, B.2, C.1, C.2 in the Appendices). From 1974 to 1975, the unscreened (control) group had a 73 percent increase in the utilization of dental procedures. In the same time period, screened persons exhibited a 185 percent increase in service utilization. This indicates that the initial impact of EPSDT screening was to greatly increase the use of dental services. As treatment was administered, the frequency of dental visits declined. This is indicated by the 50 percent decrease in service utilization by the screened sample as opposed to the 9 percent decrease by the unscreened sample from 1975 to 1976. Since the overall increase in dental service utilization was less for screened than for unscreened persons, it is possible that EPSDT has the long-term effect of reducing the frequency of dental visits, but only after raising the overall rate for individuals who were typically lower users before screening.

This pattern is not followed in the category of Optical Services in State 1. EPSDT initially caused a large increase in the utilization of optical services by members of the screened sample. In the year following screening, after treatment had been obtained, screened persons exhibited a 48 percent decrease in service use, as opposed to a 12 percent increase demonstrated by those in the unscreened group. The net decrease in optical service use from 1974 to 1976 was only slightly greater for screened (14 percent) than for unscreened (12 percent) persons. This suggests that EPSDT has no permanent impact upon the use of optical services among screened persons.



The per capita utilization data presented in Table 2.3 support these observations. Utilization of combined Dental and Optical services was lower by screened than unscreened persons in 1974 and 1976, but higher in 1975. This pattern is also demonstrated by each of the constituent service categories, with higher overall utilization figures for Dental Services than Optical Procedures (see Tables A.2, B.2 and C.2 in the Appendices). The data indicate that members of the screened sample experienced a surge in utilization of both dental and optical services in 1975, evidently caused by the screening procedure. In the year following screening (1976), the EPSDT group dropped back to their original pre-screening level of optical service utilization. Dental service usage by this group also declined in 1976, but remained higher than the 1974 level. This is most likely due to the different natures of these service types, with treatment for dental deficiencies being administered over a comparatively long period of time, and optical treatment being more episodic. Although a lower utilization rate was exhibited by screened than unscreened persons in 1976, this comparison of the pre- and post-screening utilization rates suggests that the EPSDT screening process had the effect of raising the use of dental, but not optical, services among (apparently) low users in the short-run (one year following screening).

#### Other Service Units

Between 1974 and 1975, members of the State 1 EPSDT sample exhibited a 380 percent increase in the utilization of Other Service Units. From 1975 to 1976, the utilization rate decreased by 31 percent, resulting in a net increase of 230 percent from 1974 to 1976. The unscreened sample displayed a 2971 percent increase in Other Service utilization from 1974 to 1975 and a 12 percent increase from 1975 to 1976, yielding a 3343 percent net increase from 1974 to 1976.

The percentage change values appear to be very substantial. The category of Other Services, however, is a combination of very diverse health care types. Included here are ambulance services,





nursing home days, psychological tests, appliances (such as orthopedic braces and hearing aids), and laboratory services billed to Medicaid in State 1 by independent laboratories. This broad range of services, coupled with the comparatively low actual utilization figures (see Tables A.1, B.1, and C.1 in the Appendices) makes it difficult to interpret the findings in this category.

It appears from examining the raw data on Tables A.1, B.1, and C.1 (see Appendices), that the exceptionally large increases in utilization demonstrated by the unscreened sample from 1974 to 1975 and 1974 to 1976 were caused by unusually high service utilization by members of the non-white, aged 7-21 category in 1975 and 1976. In this one stratum, the number of units of service jumped from three in 1974 to 214 in 1975 with a slight increase to 227 units in 1976. It would appear from these data that the use of an atypical service type, such as a long-term care facility, has occurred. This explanation would also account for the continued high usage of Other Services from 1975 to 1976.

#### Total Service Utilization

Due to the heterogeneity of the units of measurement contained in this column, the data presented here should be interpreted in terms of general trends only. The total utilization figures for all combined Medicaid medical service types indicate that members of the screened sample in State 1 used 82 percent more services in 1975 than in 1974. Between 1975 and 1976, there was a 29 percent decrease in service utilization, resulting in a net increase of 29 percent from 1974 to 1976. Members of the unscreened sample exhibited a 27 percent increase in service utilization from 1974 to 1975 and a nine percent decrease from 1975 to 1976. From 1974 to 1976, the unscreened group had an overall increase of 15 percent in the utilization of all Medicaid medical services.

The 27 percent increase in service utilization exhibited by the control (unscreened) group from 1974 to 1975 serves to moderate the





effect of the 82 percent increase by the screened group. The result is a net increase of 55 percent in the use of medical services by the screened sample over that of the control group. These data indicate that the initial effect of EPSDT screening (in the same year that screening took place) was to increase the relative utilization of medical services.

From 1975 to 1976, the screened sample exhibited a greater decrease in medical service utilization than did the unscreened sample. This can best be explained as the abeyance of the initial surge to medical service providers which was caused by the identification of medical problems during the screening procedure. The long-term effect of screening (from 1974 to 1976), though not as marked as the initial effect (from 1974 to 1975), was still to increase the rate of medical service utilization in the screened sample (a net increase of 14 percent beyond the increase exhibited by the unscreened sample).

The per capita utilization data indicate that screened persons used significantly fewer medical services than unscreened persons in both the year prior to and the year following the screening procedure. In the year that screening occurred, the difference in utilization rates by the two groups was not statistically significant (see Table 2.3). Although the percentage increase in medical service use exhibited by the screened sample from 1974 to 1976 was greater than that exhibited by the unscreened sample, screened persons actually used 18 percent fewer units of service than unscreened persons in 1976 (see Table A.5).

The findings on Tables 2.1, 2.2, and 2.3 imply that the effects of EPSDT screening in State 1 were threefold. Initially, screening caused an increase in medical service utilization due to the diagnosis of health deficiencies during the screening procedure. Subsequently, the utilization rate declined following the treatment of these deficiencies. At the end of the three-year study period, the medical service utilization exhibited a higher percentage increase for screened than unscreened individuals. This can probably be attributed, in part,



to their continued treatment of diagnosed health deficiencies. In addition, their heightened awareness of the availability of certain medical services, caused by the screening and referral process, served to increase their utilization of these services over the level which prevailed prior to screening. That is, it appears that the EPSDT group was comprised of low users of medical services prior to screening, and that the screening program stimulated an overall increase in their utilization in the short-run (the year following screening) following a dramatic one-time surge in usage during the year in which screening occurred.

To further illustrate, the increase in medical service utilization exhibited by the screened sample in State 1 between 1974 and 1976 was 14 percent higher than that exhibited by the unscreened sample. Were members of the EPSDT group to have experienced the same 15 percent increase in service utilization as that demonstrated by the non-EPSDT group (see Table 2.2), their per capita figures would have increased from 5.86 services to 6.74 services. As it was, the 1976 utilization rate for all combined medical services exhibited by the screened sample was 7.58 services per person (see Table 2.3). This suggests that the apparent effect of EPSDT in State 1 in the short-run (the year immediately following screening), was to increase the utilization of medical services by almost one visit (.84) per person beyond the anticipated level of increase which would have occurred in the absence of screening.

#### MEDICAID MEDICAL SERVICE EXPENDITURES IN STATE 1

The expenditure findings for State 1 are displayed in Tables 2.1 and 2.2 in terms of per capita costs and costs per unit of service. The data represent percentage changes in the expenditures and unit costs of medical services between 1974 and 1975, 1975 and 1976, and the overall change from 1974 to 1976. Table 2.1 displays figures for the EPSDT (screened) sample population and Table 2.2 displays figures





for the non-EPSDT (unscreened) control group. As discussed in the utilization findings, all 1974 and 1976 data were adjusted for individuals with partial years of eligibility to control the independent variable (the EPSDT program) and to ensure comparability between years. The values on Tables 2.1 and 2.2 were computed from the expenditure (and utilization) data for 800 members of the screened group and 800 members of the unscreened group. The sample size was also maintained by the four age/race strata in all three years. The raw expenditure data are presented in Tables A.3, A.4, B.3, B.4, C.3, and C.4 in the appendices for reference purposes. To facilitate comparative analyses, the per capita expenditure data for the sample populations have also been presented in Table 2.4 for the five general medical service categories. As with the utilization findings, these figures will be discussed when it is necessary to put the percentage change data into the proper perspective.

In presenting the expenditure findings, the same format is followed which was used in the discussion of the utilization findings. Services are divided into the same five broad categories to facilitate analysis. These categories are General Outpatient Services, Pharmaceutical Prescriptions, Inpatient-Related Services, Dental and Optical Services; and Other Service Units. As discussed in the utilization findings, the total percentage change in All Services, shown in the far right column of Tables 2.1 and 2.2, and the per capita expenditures for All Services, displayed in Table 2.4, should be interpreted with care due to the heterogeneous nature of the services represented.

#### General Outpatient Services

Between 1974, the year prior to screening, and 1975, the year that screening took place, members of the State 1 EPSDT sample had a 71 percent increase in expenditures for General Outpatient Services. From 1975 to 1976, the year following screening, the overall rate of expenditures in this service category rose by one percent for screened eligibles. Between 1974 and 1976, therefore, there was a net expenditure increase of 73 percent per capita.





TABLE 2.4: PER CAPITA MEDICAID EXPENDITURES BY THE SAMPLE POPULATION  
IN STATE 1, BY MAJOR MEDICAL SERVICE CATEGORY AND YEAR OF SERVICE  
(ADJUSTED FOR PARTIAL YEARS OF ELIGIBILITY)

MEDICAL SERVICES												
YEAR	General Outpatient		Prescriptions		Inpatient-Related		Dental & Optical		Other Services		All Services	
	EPSDT	Non- EPSDT	EPSDT	Non- EPSDT	EPSDT	Non- EPSDT	EPSDT	Non- EPSDT	EPSDT	Non- EPSDT	EPSDT	Non- EPSDT
1974	\$25.80	\$29.34	\$6.31**	\$10.80**	\$33.62	\$50.10	\$19.31	\$23.41	\$0.25	\$1.60	\$85.30**	\$115.25**
1975	\$44.03	\$39.29	\$7.88*	\$ 9.76*	\$52.44	\$54.09	\$47.48**	\$36.04**	\$1.21	\$4.35	\$153.04	\$143.53
1976	\$44.54	\$40.23	\$6.98**	\$10.13**	\$42.67	\$46.40	\$21.96	\$26.04	\$1.21	\$6.59	\$117.27	\$129.39

\* Difference between EPSDT and non-EPSDT sample members is statistically significant at the .05 level.

\*\* Difference between EPSDT and non-EPSDT sample members is statistically significant at the .01 level.



By comparison, the unscreened sample in State 1 exhibited only a 34 percent increase in expenditures between 1974 and 1975 and a 2 percent increase from 1975 to 1976, resulting in a net increase of 37 percent between 1974 and 1976.

Viewed separately, the expenditure differences between the years appear to outpace the utilization changes for both the screened and unscreened samples. When the changes in unit costs of medical services are taken into consideration, however, the differing utilization and expenditure rate changes can be explained. From 1974 to 1975, the screened sample experienced increases of 11 percent in the unit cost of outpatient services while the unscreened sample experienced a 5 percent increase. Between 1975 and 1976, unit costs rose by 5 percent in the screened group and by 16 percent in the unscreened. The resulting increase from 1974 to 1976 was a fairly comparable 16 percent for screened and 22 percent for unscreened persons.

These figures indicate that the EPSDT sample used more costly services during the year of screening (1975) than the non-EPSDT sample. It is possible that following screening, individuals tended to use more sophisticated and therefore, more costly outpatient services such as visits to medical specialists, and other diagnostic providers. That the greatest increases in unit costs by screened persons are seen in the Outpatient Hospital and Physician Emergency categories suggests that this is the case. This may be due to referrals by EPSDT to more costly specialists or by an impetus given by EPSDT to general providers to conduct more thorough, therefore more expensive, diagnostic procedures than are routinely provided to other patients (i.e., the control group) in State 1. Further, from 1974 to 1975 screened individuals tended to shift the focus of their outpatient care from relatively inexpensive office settings to more costly outpatient hospital settings.

Between 1975 and 1976, expenditure increases exhibited by both screened and unscreened eligibles were negligible. In this time period, screened persons showed a 3 percent decrease in utilization, and a one percent increase in expenditures. This is due to the 5 percent increase in unit costs, most likely caused by inflation. Although



the unscreened sample used 12 percent fewer services from 1975 to 1976, their expenditures increased by two percent. This, again, is due to an increase in unit costs of 16 percent, which seems to stem largely from increased costs in outpatient clinics.

In looking at the data presented in Table 2.4, per capita expenditures for the EPSDT sample are seen to have jumped from 1974 to 1975, but then to have leveled off in 1976. The non-EPSDT sample, on the other hand, experienced a more gradual increase between the years. Relative expenditures were 12 percent higher for unscreened than screened persons in 1974, but in both the year of screening and the following year, the screened group's expenditures surpassed those of the unscreened group (by 12 and 11 percent in 1975 and 1976, respectively). However, the difference in per capita expenditures between the screened and the unscreened samples was not statistically significant in any of the three study years.

#### Pharmaceutical Prescriptions

Between 1974 and 1975, screened individuals in State 1 exhibited a 25 percent increase in expenditures for Pharmaceutical Prescriptions. During this same time period, there was an 8 percent increase in the unit cost of prescriptions which, coupled with the 15 percent increase in utilization of this service type, accounts for the increase in expenditures. Members of the unscreened sample, however, exhibited a 10 percent decrease in prescription expenditures between 1974 and 1975, and a three percent decrease in the cost per unit of service.

From 1975 to 1976, members of the EPSDT sample showed an 11 percent decrease in expenditures for prescriptions, explained by the 4 percent increase in unit cost and the 15 percent decrease in utilization of this service. Members of the non-EPSDT sample in State 1 showed a 4 percent increase in prescription expenditures although utilization decreased by 6 percent. This was caused by an 11 percent increase in per-prescription costs during the same time period.







These data suggest that from 1974 to 1975, the EPSDT sample not only increased their utilization of and, therefore, expenditures for Pharmaceutical Prescriptions, but also tended to use slightly more costly services. In the year following screening, however, the screened sample demonstrated a decrease in both utilization of and expenditures for Pharmaceutical Prescriptions, possibly as treatment for their illnesses was concluded. Over the three-year study period, screened persons decreased service use slightly, but they increased their cost per unit of service in this category. This may indicate either that screened people receive more costly prescriptions or that they obtained larger quantities per refill. The percentage changes indicated in this category, however, are not substantial enough to be able to claim definitively that EPSDT made a decided impact on either the utilization of or expenditures for Pharmaceutical Prescriptions in the three-year study period.

The actual per capita expenditure data presented in Table 2.4 indicate that the screened sample incurred lower expenses for Pharmaceutical Prescriptions than the unscreened sample in all three study years. The difference in expenditure levels between the EPSDT and the non-EPSDT groups was highly significant in both 1974 and 1976, and moderately significant in 1975, the year in which screening occurred. The fluctuations in the expenditure figures from 1974 to 1976 largely parallel those exhibited by the utilization data. Slight discrepancies are again accounted for by changes in costs per unit of service.

#### Inpatient-Related Services

In State 1, members of the EPSDT sample exhibited a 56 percent increase in the per capita expenditure rate for Inpatient-Related services from 1974 to 1975. That this increase is less than the increase indicated by the utilization data can be explained by the 15 percent decrease in the cost per unit of inpatient service. From 1975 to 1976, screened eligibles showed a 33 percent decrease in



inpatient service utilization, but only a 19 percent decrease in expenditures. This was due to a 21 percent increase in the unit cost of these services in the same time period. The overall figures for the three-year period indicate a negligible two percent increase in the unit cost of inpatient services by members of the screened sample. The increases demonstrated in the areas of utilization and expenditures, therefore, are almost identical (24 and 27 percent, respectively).

Members of the non-EPSDT control group initially displayed an 8 percent increase in expenditures for inpatient services in State 1, but a 4 percent decrease in utilization. This was due to an increase of 13 percent in the unit cost of inpatient services between 1974 and 1975. From 1975 to 1976, the control group exhibited a 14 percent decrease in expenditures for Inpatient-Related services. This is largely a reflection of the 18 percent decrease in service utilization during the same time period, as unit costs only rose by 4 percent. The net change during the three-year period was a 21 percent decrease in utilization of inpatient services by unscreened persons and a 7 percent decrease in expenditures. The percentage change of expenditures was not as great as that of utilization due to the overall increase of 17 percent in the unit cost of Inpatient-Related services between 1974 and 1976.

The actual per capita data exhibited on Table 2.4 show lower per capita expenditures by screened than unscreened persons in each of the three study years. In the year prior to screening (1974), expenditures by the EPSDT sample were 33 percent lower than those by the non-EPSDT group. In 1975, however, screened persons had expenditures only 3 percent lower than unscreened persons, and in 1976, 8 percent lower (see Tables A.5, B.5, and C.5 in the Appendices). These figures suggest that the main effect of EPSDT on Inpatient-Related service expenditures is to bring screened persons up to the same level as unscreened persons in 1975 and 1976. Differences in per capita expenditures between the two samples in 1974, though more pronounced, were not statistically significant.





By constituent service type, we see that screened individuals were spending less time in inpatient hospital settings from 1974 to 1976, but were receiving more Physician Other Visits. That most Physician Other Visits occur in inpatient hospitals suggests that screened persons were receiving more intensive care than their unscreened counterparts (see Utilization Findings for State 1). The unit costs of Physician Other Visits were comparable between the screened and unscreened samples. The differences in expenditures between screened and unscreened exhibited in this service classification were largely a function of changes in utilization. For both groups, the increases in expenditures for Inpatient Hospital Days were mostly a reflection of the increased unit costs of hospital care which occurred over time. From 1974 to 1975, the unit costs for inpatient days increased more substantially in the unscreened sample than in the screened sample. From 1975 to 1976, however, unit costs leveled off in the unscreened sample and continued to rise for the screened sample. This resulted in a similar increase in unit costs of Inpatient Hospital Days exhibited by both groups from 1974 to 1976. As many Physician Other Visits occur in inpatient hospital settings and may not all be billed separately to Medicaid, the combined services may be a better reflection of the utilization and expenditure patterns for inpatient care.

The combined figures indicate that EPSDT initially caused a jump in the utilization of and, therefore, expenditures for inpatient services. The lower increase in unit cost exhibited by screened than unscreened individuals suggests that EPSDT may be identifying health impairments at an earlier stage of development. Treatment, therefore, would not be as intensive and the unit costs would be lower. Alternatively, members of the State 1 EPSDT sample may simply be receiving treatment in hospitals whose overall cost increases happened to be less. As a separate analysis of the relative costs of hospital services was not conducted, however, this interpretation is merely speculative.





## Dental and Optical Services

Between 1974 and 1975, members of the EPSDT sample exhibited an increase of 146 percent in expenditures for combined Dental and Optical services in State 1. The fact that this increase was not as great as that exhibited by the utilization findings is explained by the 12 percent decrease in the unit costs for these services. From 1975 to 1976, per capita expenditures by the screened group decreased by 54 percent and unit costs decreased by 8 percent. The resulting data for the period from 1974 to 1976 showed an increase of 14 percent in expenditures and a decrease of 19 percent in the unit cost of Dental and Optical services.

Members of the non-EPSDT sample exhibited a 54 percent increase in expenditures for these services between the year prior to screening and the year of screening itself. Costs per unit of service declined by 7 percent. Expenditures from 1975 to 1976 decreased by 28 percent and unit costs fell by 21 percent in the control group. The net change in the category of Dental and Optical services from 1974 to 1976 was an expenditure increase of 11 percent. Although utilization increased by 52 percent over this period, per capita expenditure increases were dampened by a decrease in unit costs of 27 percent.

As discussed in the utilization findings, the overall figures in this category are largely a result of changes occurring in the area of Dental Procedures. The relatively low base of utilization in the category of Optical Visits lessens the impact of any changes in this area. For both the experimental and the control groups, the expenditure findings in both categories closely parallel those exhibited for utilization.

The actual per capita expenditure data for the category of Dental and Optical services support these premises. As exhibited in Table 2.4, expenditures by screened persons were lower than those by unscreened persons in both 1974 and 1976. In these years, the difference between the two samples was not statistically significant. On



the other hand, during the year of screening (1975), screened persons had significantly (at the .01 level) higher per capita expenditures than unscreened persons, mainly the result of increased service utilization in this same year (since unit costs actually declined). The levels of per capita expenditures exhibited by both screened and unscreened groups in 1976 (the year following screening) were substantially less than the 1975 levels, and only moderately higher than the pre-screening (1974) levels.

The overall data indicate that changes in unit costs for these services (to which referrals are emphasized within the EPSDT program) were comparable between the two sample populations, with the unscreened sample experiencing a slightly greater decrease in unit cost over the three-year period. Increases in both utilization and expenditures from 1974 to 1975 were substantially greater for screened than unscreened persons, however. This indicates that one primary effect of EPSDT is to initially increase the utilization of, and consequently, the expenditures for, dental and optical services in State 1. Following the administration of treatment, both utilization and expenditures by the screened sample decreased markedly in these service categories. The end result at the close of the three-year study period is a fairly comparable rate of increase between screened and unscreened persons in both the utilization of and expenditures for dental and optical services in State 1. This suggests that the effect of EPSDT in this service area may be negligible in terms of the long-run utilization rate. The reduction in per unit costs from 1974 to 1976 probably reflects a shift towards less complicated procedures rather than a reduction in the fee schedule per se. In fact, discussions with State Medicaid officials indicated that substantial changes occurred in the area of dental services (the service type with the greatest impact in this category) during the period from 1974 to 1976. Not only was the scope of dental services covered by Medicaid altered during this



time, but pre-authorization controls\* were instituted in State 1 (fee schedules were not reduced). These actions may account for the apparent large increases in the number of dental services utilized by both study groups and the simultaneous substantial decreases in unit costs. Part of the large increase in dental service utilization by the screened sample from 1974 to 1975 should be attributed to this administrative change and not entirely to the EPSDT screening procedure.

#### Other Service Units

In the category of Other Service Units, members of the EPSDT sample in State 1 exhibited a 374 percent increase in per capita expenditures between 1974 and 1975. That the cost per unit of service decreased by only one percent accounts for the close parallel between the utilization and expenditure findings for screened eligibles in this time period. From 1975 to 1976, expenditures decreased by 7 percent and unit costs rose by 35 percent. The overall data for the period from 1974 to 1976 show a 341 percent increase in expenditures and a 34 percent increase in unit costs by screened persons in State 1.

Unscreened eligibles exhibited a 171 percent increase in expenditures for other service units and a 91 percent decrease in unit costs between 1974 and 1975. In the following one-year period, expenditures rose by 52 percent and unit costs rose by 35 percent. The net change between 1974 and 1976 was a 311 percent increase in expenditures and an 88 percent decrease in unit costs for Other Services by members of the non-EPSDT sample.

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\* If pre-authorization controls led to "artificial unbundling" of procedures, our findings call into question the utility of this form of utilization control. Unbundling might be accomplished by separately reporting each procedure actually done even where the procedure is inexpensive instead of reporting one relatively complex procedure to generate the same billings as would be justified by the simpler procedures.







As stated in the utilization findings, the data in this category are difficult to interpret due to the heterogeneous nature of the services. Changes in the expenditures by screened persons appear to closely follow the utilization figures, with slight differences caused by fluctuations in unit costs from year to year. Members of the unscreened group exhibited an exceedingly high increase in the utilization of Other Services between 1974 and 1975. Despite a 91 percent decrease in unit costs during this time frame, expenditures showed a 171 percent increase. The long-term (1974 to 1976) increase in utilization and expenditures and the decrease in unit costs are largely a reflection of the initial large changes from 1974 to 1975. The diversity of services contained in this category, combined with the broad range of their unit costs, however, makes a comparative analysis between the study years of questionable value.

#### Total Service Expenditures

As discussed previously, the heterogeneous nature of the units of measurement represented in this column necessitates a broad interpretation of these data. The figures presented here are noteworthy in that they illustrate general trends only. Members of the State 1 screened sample exhibited a per capita increase of 79 percent for all Medicaid medical service expenditures from 1974 to 1975. The total cost per unit of service showed a two percent decrease in the same time period. Between the year of screening and the following year, expenditures decreased by 23 percent while the unit cost of medical services rose by 8 percent. The overall change exhibited from 1974 to 1976 by the EPSDT sample in State 1 was an increase in per capita expenditures of 38 percent and an increase in unit costs of 7 percent.

Members of the non-EPSDT sample showed a 25 percent increase in expenditures and a two percent decrease in unit costs between the year prior to screening and the year of screening. In the following one-year period, from 1975 to 1976, expenditures by unscreened persons fell by 10 percent and unit costs decreased by a negligible one percent.



The net change from 1974 to 1976 was a 12 percent increase in expenditures and a three percent decrease in unit costs for all combined Medicaid medical services.

The percentage changes in the overall unit costs demonstrated by both the experimental and the control groups were relatively insignificant (although the screened group did exhibit a greater increase in unit costs over the three-year period). Changes in expenditure rates, therefore, were largely a function of changes in utilization patterns by both study groups. As discussed in the utilization findings, EPSDT appears to have initially caused an increase in the utilization of and, consequently, the expenditures for medical services on the whole. In the year following screening, both study groups demonstrated decreases in utilization and expenditures, with a greater decline evidenced by members of the EPSDT sample. The net data, for the three-year study period indicate greater increases in utilization, expenditures, and unit costs by screened than by unscreened individuals. This suggests that, at least in the time frame of this study, EPSDT actually increased the relative use of and expenditures for medical services reimbursed by Medicaid.

In terms of per capita expenditures, members of the EPSDT sample had significantly lower expenditures (at the .01 level) than members of the non-EPSDT sample in the year prior to screening (1974). In the year of screening (1975), expenditures by screened persons were slightly higher (7 percent) than those by unscreened persons but the difference was not statistically significant. In 1976, members of the EPSDT group had expenditures 9 percent lower than members of the non-EPSDT group, again not a statistically significant difference. These figures largely parallel the utilization data, and indicate that EPSDT tended to introduce previously low medical service users into the health care program and brought their expenditures up to a level comparable to that exhibited by the control (non-EPSDT) group.



If one assumes that the percentage change in per capita expenditures among the EPSDT group would have been the same as that for the non-EPSDT sample in the absence of screening, it is possible to estimate the apparent per capita expenditure effect of the screening and referral process in the short run. Applying the non-EPSDT per capita increase between 1974 and 1976 (i.e., 12 percent) to the base year (1974) expenditures on behalf of the EPSDT group, an "expected" per capita expense of approximately \$95.80 per EPSDT participant in 1976 is obtained (ignoring the apparently higher increase in per unit costs for EPSDT utilization). Since the actual EPSDT 1976 expenditure rate was \$117.30, this suggests that the EPSDT process "resulted" in a short-term increase in annual medical expenses of about \$21.50 per capita; or, in percentage terms, led to a 22 percent higher per capita expense. As was noted with the utilization findings above, however, one must be cautious in projecting these inferences to the general case. Nonetheless, these findings are noteworthy and further study on the issue is definitely warranted.





### SECTION III: STATE 2 - IMPACT OF EPSDT ON UTILIZATION AND EXPENDITURES FOR MEDICAL SERVICES UNDER MEDICAID

*In this section, data are presented for State 2 from the years prior and following EPSDT screening, as well as the year of screening itself. The data are analyzed in terms of percentage changes between the years: 1974 to 1975; 1975 to 1976; and 1974 to 1976. As in Section II, the percent change data are displayed by ten service classifications which are aggregated into five general categories to facilitate analysis. The raw data from which the percentages were calculated are presented in the appendices for reference purposes. The raw data tables exhibit the levels of utilization and expenditures by each of the four recipient groups (white, aged 0-6; white, aged 7-21; non-white, aged 0-6; and non-white, aged 7-21) as well as by screening status. Utilization has been expressed in units, such as days, visits, procedures, prescriptions, etc. for each medical service category. Utilization is defined as a Medicaid payment for one unit of any medical service type.*

*Members of both the EPSDT and the non-EPSDT samples in State 2 exhibited increased service utilization in each of the major medical service categories from 1974 (the year prior to screening) to 1975 (the year that screening took place). Percentage increases by the EPSDT sample in this time period were greater, on the whole, than those exhibited by the non-EPSDT sample. This was demonstrated in each of the general service categories, with the exception of General Outpatient Services and Inpatient-Related Services, where percentage increases were identical for both samples. The actual per capita utilization figures show that in 1974, members of the screened sample used fewer services than members of the unscreened sample in all but the Other Services category. The differences between the EPSDT and the non-EPSDT*



samples in the pre-screening year were statistically significant in the categories of Pharmaceutical Prescriptions, Inpatient-Related Services, and All Services. In 1975, the per capita utilization rates exhibited by both samples were very comparable in all but the Inpatient-Related Services category. In this area, screened persons used significantly fewer (at the .01 level) services than unscreened persons. Statistically significant differences between the two sample groups were not evidenced in any of the other major service categories, including all combined medical services, in 1975.

From 1975, the year of screening, and 1976, the post-screening year, members of the State 2 EPSDT sample exhibited no percentage change in their utilization of all combined Medicaid medical services. Members of the unscreened sample exhibited only a three percent increase in medical service utilization in the same time-period. In the five general service categories, percentage increases in utilization exhibited by screened persons from 1975 to 1976 were greater than those exhibited by unscreened persons in General Outpatient Services and Inpatient-Related Services, but less than the unscreened sample in Pharmaceutical Prescriptions, Dental and Optical Services, and Other Service Units. The overall percentage change data for the 1974 to 1976 period showed higher increases in medical service utilization by screened than unscreened persons in all categories but Dental and Optical Services and Other Service Units. In these two areas, percentage increases in utilization, though slightly lower for screened than unscreened persons, were very comparable. The actual data for 1976 indicate that the utilization levels demonstrated by both the EPSDT and the non-EPSDT samples were on a par, with no statistically significant differences evidenced in any of the five general service categories or for all services combined. Per capita utilization rates in the post-screening year were slightly lower for screened than unscreened persons in all but the Other Services category, where utilization was essentially the same.

The expenditure data for the three-year study period in State 2 largely paralleled the utilization findings for both the EPSDT and the non-EPSDT samples, with occasional variations caused by fluctuations in unit costs. As with the utilization data, the screened sample showed greater percentage increases than the unscreened sample in expenditures for all combined medical services in the period from 1974 to 1975. Percentage increases in unit costs for All Services in this same time period, however, were lower for the EPSDT group than for the non-EPSDT group. In the pre-screening year (1974), the actual





per capita expenditures were lower for the EPSDT sample in each of the five service categories, with the exception of Other Services. Members of the EPSDT sample had significantly lower expenditures (in a statistical sense) than members of the non-EPSDT sample in the categories of Pharmaceutical Prescriptions, Inpatient-Related Services, and All Services.

From 1975 to 1976, the screened sample exhibited a greater percentage increase in expenditures but a lower relative increase in utilization for all combined Medicaid medical services than the unscreened sample. This was due primarily to the 10 percent increase in unit costs for all combined services experienced by the EPSDT sample as opposed to the 7 percent decrease exhibited by the non-EPSDT sample. In the year of screening (1975), members of the EPSDT sample had lower per capita expenditures than members of the non-EPSDT group in all but the Dental and Optical and the Other Services categories. Screened persons had significantly lower expenditures (at the .05 level) than unscreened persons in the categories of Inpatient-Related Services and All Services. In the post-screening year (1976), the per capita expenditure data followed the same pattern as the utilization data in State 2. Members of the EPSDT (experimental) group had lower per capita expenditures than members of the non-EPSDT (control) group in all but the Other Services category. Differences in expenditures by the two samples were not statistically significant in any of the five major service categories or in the category of All Services in the post-screening year. Per unit costs for all combined medical services were lower for screened than unscreened persons in State 2 in each of the three study years. The steady increase in unit costs exhibited by the EPSDT sample throughout the study period, however, served to reduce this difference from 11 percent in 1974 to 2 percent in 1976.

The following pages of the report present the 1974-1976 utilization and expenditure data for State 2 in greater detail. The Medicaid medical service figures for this period, covering the pre-screening year (1974), the year that screening occurred (1975), and the post-screening year (1976) are subsequently analyzed and interpreted.





## Service Categories

In order to clarify the data that follow, definitions of the ten medical service types which make up the five major categories of Medicaid service are presented. These definitions were given at the outset of Section II and are repeated here for the convenience of the reader. The categories and service types are as follows:

### I. General Outpatient Services

- Physician Office Visits - four types of services are included in this category: physician office visits, physician billed x-ray procedures, physician billed laboratory procedures, and physician billed injections. When more than one of these service types is provided by a single physician to one patient on the same day and one of these services is an office visit, only the office visit is counted as a utilization unit. When no office visit is recorded but other services included in this category are performed, all of those services performed on one date are considered to be part of one office visit.
- Outpatient Hospital Visits - individual visits to hospital outpatient departments. As in the case of physician office visits, all procedures billed separately by the hospital on the date of the outpatient visit are considered to be elements of that visit and are not separately enumerated. However, where x-rays, laboratory procedures, and injections are billed to Medicaid by individual physicians they have been recorded as physician office visit components even when we suspect that they were part of the outpatient hospital visit encounter. Certain other individual physician billed procedures which may have been associated with a hospital outpatient department visit have been recorded as Physician Other Visits as we cannot be certain that they indeed were associated with hospital outpatient visits.
- Outpatient Clinic Visits - clinic services provided to one patient on one day but not billed as a physician visit.
- Physician Emergency Visits - visits billed by physicians for emergency care largely in hospital emergency rooms.

### II. Pharmaceutical Prescriptions

- Pharmaceutical Prescriptions - new and refilled prescriptions. Each pharmaceutical provided is counted as a service unit whether or not multiple medications have been ordered on a single prescription.



### III. Inpatient-Related Services

- Inpatient Hospital Days - hospital days billed to Medicaid (admission date subtracted from discharge date).
- Physician Other Visits - individual physicians' services except physicians' office, emergency care, and ophthalmologists' services. When a physician service is performed during a period of hospitalization, regardless of the procedure, it is considered a physician other visit. The vast majority of physician other visits, in fact, do occur during hospitalization.

### IV. Dental and Optical Services (services to which referrals are emphasized within the EPSDT program)

- Dental Procedures - individual dental procedures such as x-ray, extractions, filled cavities and dental education sessions.
- Optical Service Visits - services performed on a single day by one provider for one patient and billed to Medicaid as having been for eye services. We have grouped the services of ophthalmologists, optometrists, opticians, and corporate providers of vision services in this category.

### V. Other Service Units

- Other Service Units - a general category that contains ambulance trips, prosthetic devices, nursing home days, laboratory services billed by independent laboratories, and other services which are not included in the other nine service categories.

## UTILIZATION OF MEDICAID MEDICAL SERVICES IN STATE 2

The utilization findings for State 2 are presented in the first three rows of Tables 3.1 and 3.2. Percent changes in the utilization of medical services between 1974 and 1975, 1975 and 1976, and the overall change from 1974 to 1976 are displayed. Figures in Table 3.1 represent the EPSDT, "screened" sample population and figures in Table 3.2 represent the non-EPSDT, "unscreened" sample. For those individuals with partial years of eligibility, all 1974 and 1976 data were adjusted. This was done in State 2, as it was in State 1, to control the independent variable (EPSDT Program) and to ensure comparability between the years. No adjustments were required of the 1975 data since



TABLE 3.1: PERCENTAGE CHANGE IN UTILIZATION PER CAPITA, COST PER CAPITA, AND COST PER UNIT OF SERVICE BETWEEN 1974, 1975, AND 1976 - STATE 2, EPSDT SAMPLE POPULATION\*

DATA GROUP	PERIOD OF SERVICE	SERVICES													TOTAL ALL SERVICES
		General Outpatient Services					Pharmaceutical Prescriptions	Inpatient Related			Dental & Optical			Other Service Units	
		Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	T O T A L		Physician Other Visits	Inpatient Hospital Days	T O T A L	Dental Procedures	Optical Service Visits	T O T A L		
UTILIZATION/ CAPITA	1974-1975	6%	-10%	435%	28%	8%	23%	57%	3%	15%	94%	8%	79%	97%	32%
	1975-1976	9%	40%	-3%	128%	16%	-16%	31%	14%	19%	4%	-12%	2%	-25%	0%
	1974-1976	16%	26%	419%	192%	26%	3%	105%	17%	38%	101%	-5%	83%	47%	32%
COST/CAPITA	1974-1975	5%	16%	542%	43%	21%	30%	52%	54%	54%	50%	-2%	32%	90%	35%
	1975-1976	21%	51%	-13%	67%	29%	-14%	13%	12%	12%	-10%	-13%	-11%	-49%	10%
	1974-1976	27%	76%	460%	139%	57%	12%	72%	73%	73%	34%	-15%	17%	-3%	48%
COST/UNIT OF SERVICE	1974-1975	-27%	29%	20%	12%	12%	6%	-3%	50%	33%	-23%	-10%	-26%	-4%	2%
	1975-1976	10%	9%	-10%	-27%	11%	2%	-14%	-1%	-6%	-13%	-2%	-13%	-32%	10%
	1974-1976	9%	40%	8%	-18%	24%	9%	-16%	48%	25%	-33%	-11%	-36%	-34%	12%

\*Positive figures indicate an increase from year to year, whereas negative figures indicate a decrease.







TABLE 3.2: PERCENTAGE CHANGE IN UTILIZATION PER CAPITA, COST PER CAPITA, AND COST PER UNIT OF SERVICE BETWEEN 1974, 1975, AND 1976 - STATE 2, NON-EPSDT SAMPLE POPULATION\*

DATA GROUP	PERIOD OF SERVICE	SERVICES													TOTAL ALL SERVICES
		General Outpatient Services					RX	Inpatient-Related			Dental & Optical		Other Service Units		
		Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	TOTAL		Pharmaceutical Prescriptions	Physician Other Visits	Inpatient Hospital Days	TOTAL	Dental Procedures		Optical Service Visits	
UTILIZATION/CAPITA	1974-1975	6%	7%	84%	-4%	8%	4%	-3%	22%	15%	66%	-10%	55%	81%	18%
	1975-1976	9%	-2%	19%	5%	7%	-7%	0%	-34%	-26%	21%	11%	20%	-14%	3%
	1974-1976	16%	5%	119%	0%	15%	-4%	-4%	-19%	-15%	101%	0%	86%	55%	21%
COST/CAPITA	1974-1975	16%	7%	129%	3%	16%	15%	14%	59%	51%	16%	-11%	9%	79%	30%
	1975-1976	9%	37%	30%	30%	23%	-8%	3%	-29%	-25%	12%	11%	12%	-43%	-5%
	1974-1976	26%	47%	198%	34%	42%	6%	18%	12%	13%	30%	-1%	22%	2%	24%
COST/UNIT OF SERVICE	1974-1975	9%	0%	24%	8%	8%	11%	18%	31%	31%	-30%	-1%	-30%	-1%	10%
	1975-1976	0%	40%	10%	24%	15%	-1%	4%	7%	2%	-7%	0%	-7%	-34%	-7%
	1974-1976	8%	40%	37%	34%	24%	10%	23%	39%	34%	-35%	-1%	-34%	-34%	2%

\* Positive figures indicate an increase from year to year, whereas negative figures indicate a decrease.



the 1975 sample was selected on the basis of a 12 month eligibility period. The EPSDT "screened" sample was comprised of 800 eligibles who were screened in 1975 and the EPSDT "unscreened" sample was comprised of 800 eligibles who were not screened prior to 1976. Each group of 800 eligibles was further sub-divided to comprise four age/race categories (see the raw data tables presented in Appendices A, B and C) with sample sizes maintained throughout the three-year period.

To complement the data contained in Tables 3.1 and 3.2, we have included Table 3.3, which gives the actual per capita utilization figures of the EPSDT and non-EPSDT samples in State 2. The figures in Table 3.3 serve to put into perspective the percentage changes in utilization contained in Tables 3.1 and 3.2. It will be important to take note that, in some cases, the screened sample will exhibit larger increases in utilization in terms of percentage changes, but still show lower per capita utilization than the unscreened sample.

The total percent changes for utilization of All Services, presented in the column on the right of Tables 3.1 and 3.2 and the total units for All Services, displayed on Table 3.3, should be interpreted with care due to the diversity of services which are contained in them. For example, a routine, relatively inexpensive service such as a dental procedure, and a more expensive inpatient charge, such as one for major surgery, were both given equal weight in the total column, each being recorded as one unit.

The categories into which the individual service types are grouped are the same as those outlined in the State 1 analysis. This section deals solely with the utilization findings for State 2. Expenditure and unit cost finding will be presented in subsequent sections of the report and will be integrated with the utilization data.

#### General Outpatient Services

Both the EPSDT (screened) sample and the non-EPSDT (unscreened) sample in State 2 exhibited an 8 percent increase in the utilization of all outpatient services from 1974, the year prior to screening, to



TABLE 3.3: PER CAPITA MEDICAID UTILIZATION BY THE SAMPLE POPULATION  
IN STATE 2, BY MAJOR MEDICAL SERVICE CATEGORY AND YEAR OF SERVICE  
(ADJUSTED FOR PARTIAL YEARS OF ELIGIBILITY)

MEDICAL SERVICES										
YEAR	General Outpatient		Prescriptions		Inpatient-Related		Dental & Optical		Other Services	
	EPSDT	Non- EPSDT	EPSDT	Non- EPSDT	EPSDT	Non- EPSDT	EPSDT	Non- EPSDT	EPSDT	Non- EPSDT
1974	3.63	4.07	3.82*	4.74*	0.52*	0.97*	2.48	2.68	0.20	0.18
1975	3.94	4.40	4.68	4.92	0.59**	1.12**	4.45	4.16	0.39	0.32
1976	4.57	4.71	3.93	4.57	0.71	0.83	4.54	4.98	0.29	0.27
									14.04	15.36
									10.65*	12.64*
									14.05	14.92

\* Difference between EPSDT and non-EPSDT sample members is statistically significant at the .05 level.

\*\* Difference between EPSDT and non-EPSDT sample members is statistically significant at the .01 level.





1975, the year that screening took place. The screened sample showed a 435 percent increase in Outpatient Clinic Visits from 1974 to 1975. This seemingly significant increase is probably partially explained by the referral of some of the screening to clinics for follow-up or completion of the screening procedures. Additionally, the total number of clinic visits is relatively small, only 39 in 1974 and 198 in 1975 (see Tables B.6 and C.6 in the appendices). So although the percentage increase appears high, the actual number of clinic visits is small, thereby reducing the significance of the reported percentage change. The control group (unscreened) also exhibited a substantial increase (84 percent) in Outpatient Clinic Visits. Again, the total number of clinic visits was small; 70 in 1974 and 129 in 1975.

In the period from 1975 to 1976, the State 2 screened group increased its utilization of general outpatient Services by 16 percent and the unscreened group increased utilization by 7 percent. The significant tendency to note here is that the screened group decreased its utilization of Outpatient Clinic Visits by 3 percent in 1976 while substantially increasing utilization of other outpatient services. The three (3) percent decrease, however, is minimal and should be viewed more as a leveling-off process. In the case of Physician Emergency Visits, the 128 percent increase in service use from 1975 to 1976 is not as substantial as it appears. In referring to the raw data tables in the appendices (Tables A.6 and C.6), it is apparent that the base utilization figures in this category were relatively low (50 units in 1975 and 114 units in 1976 for a sample of 800 persons), which serves to decrease the significance of the percentage increase represented in Table 3.1.

The increase in the utilization of Outpatient Clinic Visits over the three-year period of the study, 1974-1976, was substantially higher for the screened group (419 percent) than for the unscreened group (119 percent). This implies that EPSDT served to promote greater use of



outpatient clinics in State 2. The overall increase in the utilization of Physician Emergency Visits by the screened group for the three-year period was 192 percent, versus no increase for the unscreened group. As discussed above, the low number of total visits in this area (39, 50 and 114 for 1974, 1975 and 1976, respectively) reduces the significance of this percentage increase. Therefore, it is not implied that EPSDT resulted in higher utilization of Physician Emergency Visits. Nonetheless, although the absolute utilization rate of Physician Office Visits did increase, there was a shift in the relative utilization patterns by the EPSDT group away from Physician Office Visits to Outpatient Clinic Visits and Physician Emergency Visits.

In the total use of General Outpatient Services, the EPSDT sample exhibited lower, but not statistically significant, per capita utilization in each year of the study than the non-EPSDT sample (see Table 3.3). In addition, there was very little difference (just over three percent) in the per capita utilization of outpatient services between the screened and unscreened samples in 1976, the final year of the study (see Table A.10). This suggests that the use of outpatient services by members of the State 2 screened sample were not significantly affected by EPSDT.

#### Pharmaceutical Prescriptions

From 1974 to 1975, the screened sample in State 2 experienced a 23 percent increase in the utilization of Pharmaceutical Prescriptions. But from 1975 to 1976, the year after screening, the screened sample showed a 16 percent decrease in the utilization of this service. The results over the 1974-1976 period showed a net increase of only three percent by the screened group. The unscreened sample demonstrated an increase of only four percent in the utilization of Pharmaceutical Prescriptions in the period 1974-1975, but a decrease of seven percent from 1975-1976, with an overall decrease of four percent from 1975-1976. Since the increase in the utilization of Pharmaceutical Prescriptions from 1974 to 1975 was substantially greater for the screened group than for the unscreened group, EPSDT may have had the initial effect of increasing prescription use in the year that





screening took place. The screening process probably identified health problems amenable to treatment by drugs and most likely caused the initial increase in prescription use, but in the year after screening, the utilization began to recede to its original pre-screening level. Since medications are often dispensed following outpatient clinic and emergency room visits, and the screened sample used more of these services than the unscreened group in both 1975 and 1976, the greater relative increase in prescription drug utilization by the screened group is not necessarily unexpected. However, one must not make too much of the relative increase in utilization of prescription drugs by the EPSDT population since the absolute level of utilization in the post-screening year was lower than that of the non-EPSDT group exhibited statistically significantly lower utilization of prescription drugs, but this lower utilization was not maintained in the year of screening (1975) and in the subsequent year (1976) in a statistical sense. Thus, from a purely statistical standpoint, one must conclude that the EPSDT process resulted in an increased use of prescription drugs, although the post-screening trend in absolute terms weakens this conclusion to a degree.

#### Inpatient-Related Services

Both the EPSDT (screened) sample and the non-EPSDT (unscreened) sample in State 2 exhibited 15 percent increases in the utilization of Inpatient-Related Services from 1974 to 1975. In the 1975-1976 period, the screened sample continued to increase their utilization of inpatient services (by 19 percent), whereas the unscreened sample decreased its utilization (by 26 percent). The overall figures for 1974 to 1976 show a net increase of 38 percent in utilization by the screened sample but a 15 percent decrease over the same time period by the unscreened sample. Within the EPSDT sample, the majority of the increase in service utilization from 1974 to 1975 was due to the 57 percent increase in Physician Other Visits. Since the utilization of Inpatient Hospital Days increased only three percent for the screened sample during this period, it appears that EPSDT did not cause a significant increase in





the amount of time screened individuals spent in hospitals. EPSDT did, however, seem to promote higher utilization of Physician Other Visits which most frequently occur during inpatient hospital stays. Taken together, these findings suggest that the care received by screened individuals in the year of screening was more physician intensive than that received by unscreened individuals. This implication is further substantiated by the modest three percent decrease in Physician Other Visits and the 22 percent increase in Inpatient Hospital Days exhibited by the unscreened sample in the same time period.

In the year after screening (1976) the screened sample in State 2 continued to exhibit increases in the utilization of Inpatient-Related Services. From 1975 to 1976 the use of Physician Other Visits increased by 31 percent and the use of Inpatient Hospital Days increased by 14 percent. During this time period the unscreened sample showed a 34 percent decrease in the utilization of Inpatient Hospital Days and no change in the utilization of Physician Other Visits.

In the three-year period from 1974 to 1976, the EPSDT sample showed a net increase of 105 percent in the utilization of Physician Other Visits and a 17 percent increase in the use of Inpatient Hospital Days. This resulted in an overall increase of 38 percent in the use of Inpatient-Related Services. When compared to the overall increase of 26 percent in outpatient service use for the screened sample, EPSDT appears to promote the utilization of both inpatient and outpatient services to a similar degree. Viewed in conjunction with the figures exhibited by the unscreened (control) group, however, this impression changes. The 15 percent increase in outpatient service use by unscreened persons over the three-year study period tends to reduce the impact of the increase exhibited by screened persons. The decrease in inpatient service use exhibited by the unscreened sample, however, adds to the significance of the 38 percent increase in utilization exhibited by the screened sample for inpatient services. The resulting figures, therefore, show an 11 percent increase in the use of outpatient services and a 53 percent increase in the use of inpatient services by screened persons, beyond the increase experienced by



unscreened persons. This suggests that the impact of EPSDT at the end of the three-year study period is relatively greater in the category of inpatient services than in that of outpatient services. This is most likely due to the identification of previously neglected health impairments requiring treatment in inpatient hospital settings.

In each year of the study, the per capita utilization of inpatient services by the screened sample was less than that by the unscreened sample in State 2 (see Table 3.3). In the year prior to screening (1974), the difference in utilization rates between the EPSDT group and the non-EPSDT group was statistically significant (at the .05 level). In the year that screening took place (1975), the difference was highly significant (.01 level), but in 1976, it was not statistically significant. This pattern indicates that EPSDT served to introduce low users of inpatient services into the health care system in State 2, possibly through the identification and treatment of previously undiagnosed health deficiencies.

#### Dental and Optical Services

Members of the EPSDT sample in State 2 exhibited a 79 percent increase in the utilization of combined Dental and Optical services from 1974 to 1975, but only a two percent increase from 1975 to 1976. This resulted in a net increase of 83 percent in the utilization of Dental and Optical services between 1974 and 1976. The non-EPSDT sample in State 2 exhibited a very similar rate of utilization increase for Dental and Optical services from 1974 to 1976. Whereas the increase between 1974 and 1975 was 55 percent and the increase between 1975 and 1976 was 20 percent, the overall increase in the non-EPSDT group's utilization rate for Dental and Optical procedures for the period between 1974 and 1976 was 86 percent.

The actual per capita utilization figures exhibited on Table 3.3 are comparable between screened and unscreened persons in each of the three study years (differing by less than ten percent in all three years). Members of the EPSDT sample used fewer services than members of the non-EPSDT sample in 1974 and 1976, and more services in 1975; but the differences in the utilization rates were not statistically significant in any of the three years.





By constituent service type, in the period from 1974 to 1975, the screened sample increased the utilization of dental services by 94 percent, but the unscreened sample increased by only 66 percent. This would indicate that EPSDT initially caused an increase in the use of Dental Procedures. In the 1975 to 1976 period, the year after screening, Dental Procedures for the screened sample increased by only four percent whereas the utilization of Dental procedures by the unscreened group increased by 21 percent. This suggests that EPSDT screening served to significantly increase the use of dental services in the year of screening and to maintain that level of utilization in the year after screening. Since the overall increase in utilization for dental services between 1974 and 1976 was the same for the screened and unscreened sample (101 percent), the long-term effect of EPSDT appears to be minimal once the initial increase has occurred. This is primarily due, despite the surge of initial dental visits by the screened sample during the screening year, to the leveling off of dental visits in the following year, while the unscreened sample demonstrated a steady increase in their utilization of dental services from 1974 to 1976. However, it must be recalled that, in a statistical sense, there was no substantive effect on dental utilization due to the EPSDT process.

During the 1974 to 1975 period, the screened sample experienced an eight percent increase in optical service use. This small increase becomes more significant when compared to the 10 percent decrease in optical service utilization exhibited by unscreened eligibles over the same time period. In the year after screening, the screened sample experienced a 12 percent decrease in optical service utilization, most likely due to the completion of treatment initiated by the EPSDT screening process in the previous year. The unscreened group, by comparison, exhibited an 11 percent increase in optical service utilization from 1975 to 1976. In the 1974 to 1976 period, the unscreened sample experienced no overall change in the rate of optical service utilization, whereas the screened sample exhibited a net decrease of five percent. This decrease is not substantial and suggests that EPSDT had no long-term impact on optical service utilization. In fact, the detailed statistics in the appendices (Tables





A.7, B.7, C.7) reveal that in the year of screening (1975), the Optical Services utilization rate of the EPSDT sample was significantly higher (at the .01 level) than that of the non-EPSDT sample, but there was no statistically significant difference in the pre- or post-screening years. Thus, the EPSDT process apparently resulted only in a one-time increase in optical service utilization, concurrent with the screening exam process.

#### Other Service Units

As discussed in the findings for State 1, the analysis of the differences in the utilization patterns in this service category is difficult because of the heterogeneous nature of the services represented. Included here are curative services such as nursing home days and podiatrist visits; diagnostic services such as psychological testing and independent laboratory testing; restorative services such as prosthetic devices and hearing aids; as well as episodic care services such as ambulance trips.

Between 1974 and 1975, the EPSDT sample in State 2 showed a 97 percent increase in the utilization of Other Service Units. From 1975 to 1976 the utilization rate decreased by 25 percent for screened persons, resulting in a net increase of 47 percent from 1974 to 1976. By comparison, the unscreened sample exhibited a slightly lower increase of 81 percent between 1974 and 1975, and a 14 percent decrease from 1975 to 1976. The overall increase from 1974 to 1976 was 55 percent for the unscreened sample. Hence, the differences in utilization rate changes between the screened and the unscreened samples are slight. Moreover, no statistically significant differences in the EPSDT versus non-EPSDT utilization rates were observed over the 1974-1976 period. It appears once again that EPSDT may have caused a small increase in the utilization rate of Other Services during the year of screening, followed by a leveling off (or in this case a slight decrease) in utilization in the year after screening. Due to the diverse nature of the service categories contained in Other Service Units a more detailed interpretation of these data would be of questionable merit.



## Total Service Utilization

Because of the heterogeneity of the units of measurement contained in this column, the findings presented here should be interpreted in terms of general trends only.

Individuals in the EPSDT (screened) sample in State 2 used 32 percent more Medicaid medical services in 1975 than in 1974. From 1975 to 1976 the screened sample showed no increase, resulting in a net increase from 1974 to 1976 of 32 percent. The non-EPSDT (unscreened) sample in State 2 exhibited an 18 percent increase in the utilization of All Services during the 1974-1975 period and a three percent increase during the 1975-1976 period. The net increase for the unscreened group, from 1974 to 1976, was 21 percent.

Both the screened and unscreened samples exhibited increases in the utilization of Medicaid medical services in State 2. The general trend is for the screened sample to exhibit an immediate increase in utilization for each service category during the screening year. These increases surpassed the increases demonstrated by the unscreened sample during the same time period in each service category except Outpatient Hospital Visits and Inpatient Hospital Days. Taking into account the fact that utilization of Outpatient Clinic Visits was up by 435 percent for the screened sample during this period, it suggests that these clinics received patients during the screening year who may otherwise have gone to hospitals for treatment.

In the year after screening (1976), the screened sample experienced a leveling off in their rate of increase in utilization of Medicaid services in total. (The increase by the screened group over 1974-1976 was 11 percent higher than the increase by the unscreened group.) This can be interpreted to mean that EPSDT, once initiated, made individuals more aware of the services available and the need to correct existing health problems. Screened persons, therefore, exhibited greater increases in utilization rates than unscreened persons between 1974 and 1976, with most of the increase occurring in the year of screening, although their actual per capita utilization rates were lower in all three of the study years (see Table 3.3). Further, the statistical differences confirm this interpretation; that





is, in the year prior to screening (1974), the EPSDT sample utilized significantly (at the .05 level) fewer medical services, in a statistical sense, while no statistically significant difference existed in either 1975 (the year of screening) or 1976 (the post-screening year).

If one assumes that the percentage change in per capita utilization by the EPSDT group would have been the same as that for the non-EPSDT sample in the absence of screening, it is possible to estimate the apparent effect of the screening and referral process on per capita utilization in the short run. In the period from 1974 to 1976, the overall percentage increase in the utilization of Medicaid medical services by the State 2 screened sample was 11 percent higher than that exhibited by the unscreened sample. Were members of the EPSDT group to have experienced the same 21 percent increase in service use as that exhibited by the non-EPSDT group (see Table 3.2), their per capita figures would have increased from 10.65 services in 1974 to 12.89 services in 1976. As it was, the 1976 per capita utilization rate for all combined services was 14.04 service units per screened person (see Table 3.3). This suggests that the EPSDT process "resulted" in a short-term increase in annual medical utilization of about 1.15 service units per person; or, in percentage terms, led to a 9 percent higher per capita utilization rate.

#### MEDICAID MEDICAL SERVICE EXPENDITURES IN STATE 2

The expenditure findings for State 2 are presented in Tables 3.1 and 3.2 in terms of per capita costs and cost per unit of service. The data represent percentage changes in the expenditures and unit costs of medical services between 1974 and 1975, 1975 and 1976, and the overall changes from 1974 to 1976. The EPSDT (screened) sample population figures are given on Table 3.1 and the non-EPSDT (unscreened) sample population figures are given in Table 3.2. As previously outlined in the utilization findings, all 1974 and 1976 data were adjusted for individuals with partial years of eligibility to control the independent variable (the EPSDT program) and to ensure comparability between





years. No adjustments to the 1975 data were required because the sample participants were chosen from those individuals who had 12 months of eligibility in that year. The values on Tables 3.1 and 3.2 were computed from the expenditure (and utilization) data for 800 members of the screened sample and 800 members of the unscreened sample. The sample size was also maintained by the four age/race strata in all three years. The raw expenditure data are presented in Tables A.8, A.9, B.8, B.9, C.8 and C.9 in the appendices for reference purposes.

In addition, we have prepared Table 3.4 to facilitate comparative analyses. This table presents per capita expenditures for members of the EPSDT and the non-EPSDT samples for 1974, 1975, and 1976 by the five general medical service categories. These per capita data will enable the percentage change figures on Tables 3.1 and 3.2 to be viewed in the proper perspective.

In presenting the expenditure findings, the same format is followed that was used in the discussion of the utilization findings. Medical services are divided into the same five major categories: General Outpatient Services, Pharmaceutical Prescriptions, Inpatient-Related Services, Dental and Optical Services, and Other Service Units. As discussed in the utilization findings, the total percentage changes for All Services (shown in the far right column of Tables 3.1 and 3.2) and the total per capita expenditures (shown in the far right columns of Table 3.4) should be interpreted with care due to the heterogeneous nature of the services included.

#### General Outpatient Services

Between 1974 and 1975, the year prior to screening and the year that screening took place, the EPSDT sample in State 2 experienced a 21 percent increase in per capita expenditures for General Outpatient Services. From 1975 to 1976, the year following screening, the expenditures for total outpatient services increased by 29 percent for the screened sample. This resulted in an overall increase in per capita expenditures of 57 percent in the period from 1974 to 1976.



TABLE 3.4: PER CAPITA MEDICAID EXPENDITURES BY THE SAMPLE POPULATION  
IN STATE 2, BY MAJOR MEDICAL SERVICE CATEGORY AND YEAR OF SERVICE  
(ADJUSTED FOR PARTIAL YEARS OF ELIGIBILITY)

MEDICAL SERVICES												
YEAR	General Outpatient		Prescriptions		Inpatient-Related		Dental & Optical		Other Services		All Services	
	EPSDT	Non- EPSDT	EPSDT	Non- EPSDT	EPSDT	Non- EPSDT	EPSDT	Non- EPSDT	EPSDT	Non- EPSDT	EPSDT	Non- EPSDT
1974	\$59.75	\$67.69	\$15.13*	\$18.76*	\$41.03*	\$ 77.37*	\$27.55	\$29.51	\$3.47	\$3.05	\$146.94**	\$196.36**
1975	\$72.48	\$78.60	\$19.66	\$21.53	\$64.00*	\$116.94*	\$36.34	\$32.24	\$6.59	\$5.44	\$198.07*	\$254.75*
1976	\$93.54	\$96.36	\$16.88	\$19.84	\$70.83	\$ 87.71	\$32.36	\$36.00	\$3.37	\$3.10	\$216.98	\$243.01

\* Difference between EPSDT and non-EPSDT sample members is statistically significant at the .05 level.

\*\* Difference between EPSDT and non-EPSDT sample members is statistically significant at the .01 level.



The unscreened sample in State 2 also demonstrated increases in per capita expenditures in General Outpatient Services. Expenditures increased by 16 percent from 1974 to 1975, 23 percent from 1975 to 1976, resulting in a 42 percent increase between 1974 and 1976.

Between 1974 and 1975, the cost per unit of outpatient service increased by 12 percent for the screened sample. From 1975 to 1976 the cost per unit of service again increased (by 11 percent), resulting in an overall increase in the cost per unit of service from 1974 to 1976 of 24 percent.

The cost per unit of service for the unscreened sample increased in a similar manner: 8 percent from 1974 to 1975; 15 percent from 1975 to 1976; and 24 percent from 1974 to 1976.

Table 3.4 demonstrates that per capita expenditures increased for both samples over the three year period, with the non-EPSDT group having higher expenditures than the EPSDT sample in each year. The expenditure differences between the two sample groups largely parallel the utilization differences (see Tables A.10, B.10, and C.10 in the appendices) and are not statistically significant in any of the three study years.

In comparing the figures over the three-year time period for the screened and unscreened samples with regard to percentage changes in per capita utilization, per capita expenditures, and cost per unit of service, it is observed that the EPSDT sample did not use outpatient services which were associated with significant differences in unit costs. However, the larger increases in utilization did contribute slightly to the increases in the per capita expenditures in State 2. This rise in per capita expenditures for the screened sample parallels the rise in utilization discussed earlier in this section.





## Pharmaceutical Prescriptions

The per capita expenditures for Pharmaceutical Prescriptions for the screened sample in the period from 1974 to 1975 increased by 30 percent. For the period from 1974 to 1976, the expenditures for this same sample in State 2 decreased by 14 percent, resulting in a net increase of 12 percent from 1974 to 1976 for the screened sample.

The unscreened sample in State 2 exhibited a 15 percent increase in pharmaceutical per capita expenditures from 1974 to 1975. From 1975 to 1976, expenditures for this group decreased by 8 percent. For the overall period from 1974 to 1976, the unscreened sample showed an increase of 6 percent in per capita expenditures.

The cost per unit of service for the screened sample increased by 6 percent in the 1974 to 1975 period, increased again by 2 percent from 1975 to 1976, and showed an overall increase of 9 percent from 1974 to 1976.

From 1974 to 1975 the cost per unit of service for prescriptions increased by 11 percent for the unscreened sample. From 1975 to 1976, the unit cost decreased by one percent. In the overall period of the study from 1974 to 1976, the cost per unit of service for Pharmaceutical Prescriptions for the unscreened sample increased by 10 percent.

The costs per unit of Pharmaceutical Prescriptions were essentially the same for both the screened and unscreened samples in all three years of the study. The per capita expenditures exhibited in this service category were less for the screened than for the unscreened sample, as were the per capita utilization rates for Pharmaceutical Prescriptions.

The increase in expenditures for Pharmaceutical Prescriptions appears to have been caused primarily by the corresponding increases in utilization for both the screened and unscreened samples, since both groups used prescription drug services with similar unit price increases. In the year before screening, the EPSDT sample incurred



significantly lower expenditures per person (see Table 3.4). In the subsequent periods (1975 and 1976), the EPSDT group continued to experience lower expenditures per capita, but not statistically different from those exhibited by the non-EPSDT sample.

### Inpatient-Related Services

The EPSDT (screened/experimental) group in State 2 exhibited a 54 percent increase in per capita expenditures for Inpatient-Related services in the period from 1974 (the year prior to screening) to 1975 (the year that screening was performed). In the year following screening (1976), the per capita expenditures continued to increase at a rate of 12 percent. During the overall period (1974-1976), the total increase in expenditures for Inpatient-Related services by members of the EPSDT group was 73 percent.

The non-EPSDT (unscreened/control) group in State 2 exhibited a similar rate of increase (51 percent) in per capita expenditures for Inpatient-Related services from 1974 to 1975. In the year following screening, however, expenditures by unscreened persons decreased by 25 percent, resulting in a net expenditure increase of 13 percent over the three-year study period.

Both the screened (experimental) sample and the unscreened (control) sample showed similar increases in the cost per unit of service for Inpatient-Related Services during the period from 1974 to 1975. The screened sample increased by 33 percent - the unscreened by 31 percent. In the period from 1975 to 1976, costs per service unit among screened participants decreased slightly (6 percent), whereas the unscreened sample exhibited a slight increase (2%) in inpatient service costs during the same period. Both the screened and the unscreened samples showed a net increase for the three-year period in the cost per unit of Inpatient-Related services. The screened sample increased by 25 percent and the unscreened sample by 34 percent.

A comparison of Inpatient-Related utilization and expenditure data between the screened and unscreened groups indicates that EPSDT,





in the year of screening, significantly increased the number of Physician Other Visits (those usually occurring while the recipient was in the hospital). However, such a comparison also indicates that the screened group had a smaller relative increase in the number of Inpatient Hospital Days. This implies that the screened sample was receiving more physician intensive services while hospitalized during the year of screening in comparison to the pre-screening period. The relative increase in cost per unit of service for Inpatient Hospital Days for the screened group was higher than for the unscreened group, and, at the same time, the relative increase in cost per unit of service for Physician Other Visits was lower for the screened than for the unscreened group. This suggests that, for the screened group, the physician services may have been provided directly by the hospital (i.e., staff physicians in teaching hospitals) and were not billed separately, as by physicians in private practice.

The actual per capita expenditures, given in Table 3.4, were lower for members of the EPSDT sample than for members of the non-EPSDT sample in all three of the study years. However, while the 1974 and 1975 differences in expenditures were statistically significant (at the .05 level), this was not the case in 1976. Again, the differences in Inpatient-Related expenditures by the sample groups closely paralleled differences in utilization of these services, with only slight changes exhibited by unit costs. As discussed in the utilization findings, the fact that the difference (in both utilization and expenditures) between screened and unscreened persons was substantially less in 1976 than in either 1974 or 1975, indicates that EPSDT introduced low users into the system and brought them to a level of health care activity comparable to that of the control group.

#### Dental and Optical Services

For the category of Dental and Optical Services, the EPSDT experimental group exhibited a 32 percent increase in per capita expenditures in the year of screening (1975) over the previous year. In the year after screening, this group decreased their per capita expenditures





for Dental and Optical Services by 11 percent. The net increase between 1974 and 1976 in per capita expenditures for these services was 17 percent for the screened sample.

The non-EPSDT (control) group in State 2 exhibited increases in per capita expenditures for combined dental and optical services over the three-year period. There was a nine percent increase from 1974 to 1975, a 12 percent increase from 1975 to 1976, and a resulting overall increase of 22 percent from 1975 to 1976.

Increases in expenditures for Dental and Optical Services were not as great as utilization increases for both the screened and unscreened sample groups in State 2. This can be explained by the steady decreases in costs per unit of service exhibited by both groups over the three study years. Between 1974 and 1975, screened persons showed a 26 percent decrease in unit costs and unscreened persons showed a 30 percent decrease. From 1975 to 1976, unit costs declined by 13 percent for screened and 7 percent for unscreened persons in the sample. The overall decreases in unit costs for Dental and Optical Services between 1974 and 1976 were 36 percent for the EPSDT group and 34 percent for the non-EPSDT group.

The actual per capita expenditure data exhibited in Table 3.4 show slightly lower figures for screened than unscreened persons in 1974 and 1976, and slightly higher figures in 1975. When analyzed by constituent service type (see Tables A.9, B.9, C.9), this pattern is also followed for Dental Services. In the category of Optical Services, however, screened persons exhibited higher expenditures than unscreened persons in all three years. The differences in expenditures between the two sample groups in the combined Dental and Optical Services category were not statistically significant in any year, with one exception. In the year of screening, members of the EPSDT group had per capita expenditures of \$9.17 for Optical Services, as compared to \$6.88 by members of the control group. This difference was significant at the .01 level.



Increases in both utilization and expenditures in the category of Dental and Optical Services were higher for screened than unscreened persons from 1974 to 1975. From 1975 to 1976, those in the screened sample showed only a slight (2%) increase in utilization, and a decrease in expenditures for these services, while those in the unscreened sample continued to exhibit steady increases. The overall increases in both utilization and expenditures from 1974 to 1976 were very comparable between the two groups. The implication here is that, especially in the case of dental services, EPSDT increased utilization and, consequently, expenditures for these services in 1975 and that as treatments were obtained, service use dropped back. Expenditure (and utilization) levels remained higher for screened persons in the year following screening (1976) than in 1974, however, suggesting that EPSDT caused sustained usage of these services in the short-run (one year after screening).

#### Other Service Units

During the period from 1974 to 1975, expenditures for Other Service Units increased by 90 percent for those in the EPSDT (experimental) group. Other Service expenditures by the non-EPSDT group during this same time period increased by 79 percent. These increases by the screened and unscreened groups are consistent with the increases in their rates of utilization for Other Service Units. In the year following screening, both the screened and the unscreened samples demonstrated marked decreases in per capita expenditures: 49 percent and 43 percent, respectively. At the end of the three-year study period (1974 to 1976), the screened and unscreened samples showed little difference in the changes exhibited for per capita expenditures. The screened sample exhibited a slight decrease of three percent in Other Service expenditures, whereas the unscreened sample increased by 2 percent. The cost per unit of service for Other Services decreased for both groups (experimental and control) from 1974 to 1976 by 34 percent. Although the heterogeneous nature of this category makes the data interpretation difficult, it still can be construed that EPSDT had little effect on the utilization and expenditures for Other Service Units.





## Total Service Expenditures

The limitations of analyzing data across the ten service types have been discussed previously. Therefore, the findings presented here should be interpreted in terms of general trends only.

In consulting the raw data exhibited in Table 3.4, one observes that in State 2, the EPSDT sample population exhibited a pattern of lower expenditures for Medicaid services than the unscreened sample throughout the three-year period of the study. Percentage increases in per capita expenditures, however, were higher over the three-year period for the screened sample than for the unscreened sample. This can be explained by the fact that in State 2, individuals recognized as low utilizers of services were chosen for screening in 1975. Hence, smaller absolute dollar expenditures by members of the screened sample could still result in higher percentage rates of increase than the unscreened group.

When the data from 1974 to 1975 are compared, per capita expenditure rates for Medicaid health care services are seen to have increased for both the experimental and the control groups. The increase was slightly greater for the EPSDT sample (35 percent) than for the non-EPSDT sample (30 percent). In the period from 1975 to 1976, per capita expenditures increased in the screened group by 10 percent, but decreased in the unscreened group by 5 percent. The increase in expenditures over the three-year period was 48 percent for the screened group, compared to 24 percent for the unscreened group. The rise in expenditures by both sample groups paralleled the increases in utilization rates, with slight differences caused by changes in unit costs.

As indicated on Table 3.4, differences in per capita expenditures by screened and unscreened persons for all medical services combined were highly significant in the year prior to screening (1974). In the year that screening took place (1975), members of the EPSDT group had significantly lower expenditures than members of the non-EPSDT





group, but the difference was not quite as great. In the year following screening (1976), screened persons had lower medical service expenditures than unscreened persons, however the difference was no longer statistically significant. Tables A.10, B.10, and C.10 indicate that unit costs were also much lower for screened than unscreened persons in 1974 and 1975 (11% and 18%, respectively), and only slightly lower (2%) in 1976.

Viewed in conjunction with the utilization findings, these data indicate that EPSDT introduced previously low service users into the health care system in 1975, the year of screening. Expenditures also went up for screened persons in this year, but overall unit cost increases were lower than for unscreened persons. In the year following screening (1976), members of the EPSDT group maintained their (higher) 1975 utilization rate while continuing to increase their per capita expenditures as the result of increases in per unit costs. The actual unit costs in 1976 for the two sample groups were on a par, suggesting that EPSDT may also have caused screened persons to seek out a slightly more costly mix of service providers over the three-year study period. Differences in utilization, expenditures, and unit costs between the EPSDT and the non-EPSDT samples were not statistically significant in the year following screening. This indicates that in State 2, EPSDT had the short-term effect of bringing members of the screened sample up to a level of health-maintenance activity comparable to that exhibited by the unscreened control group.

To further illustrate, it can be assumed that the percentage change in per capita expenditures among members of the EPSDT sample would have been the same as that for members of the non-EPSDT sample in the absence of screening. It is possible, therefore, to estimate the effect of the screening procedure on per capita expenditures in the short run (one year following screening). Had members of the EPSDT group experienced the same 24 percent increase in medical expenditures (from 1974 to 1976) as that demonstrated by the non-EPSDT group (see Table 3.2), their per capita expenditures would have increased from \$146.94 in 1974, to \$182.20 in 1976 (ignoring the



apparently higher increase in unit costs by the EPSDT sample. As it was, the 1976 per capita expenditure level for all combined Medicaid medical services was \$216.98 for members of the screened sample (see Table 3.4). This suggests that the EPSDT procedure raised annual medical expenses by \$34.78 per person in the short run, a figure 19 percent higher than the "expected" per capita expenditure level. As noted in Section II of this report, however, care must be taken in projecting these inferences to the general case.



#### SECTION IV: COMPARISON OF FINDINGS FOR STATE 1 AND STATE 2

*In this section of the report, the findings which were presented in detail in Sections II and III are compared for the two states in the study. Data are also presented and analyzed for those individuals in the study sample who maintained continuous three-year (36-month) eligibility.*

*From 1974 to 1975, increases in utilization were exhibited by screened eligibles in both states in all service categories except outpatient hospital visits in State 2. Screened eligibles in State 1 exhibited greater utilization increases in general than those in State 2. Exceptions to this pattern occurred in the Outpatient Clinic and Pharmaceutical rescription service categories only.*

*From 1975 to 1976, the State 1 screened sample exhibited decreases in service utilization in all but the Outpatient Clinic Visits category. The screened sample in State 2 exhibited utilization decreases in Outpatient Clinic Visits, Pharmaceutical Prescriptions, Optical Services, and Other Services and increases in all of the remaining service categories.*

*The net data from 1974 to 1976 exhibited increases in utilization rates by the State 1 screened sample in all medical service categories except Pharmaceutical Prescriptions, Inpatient Hospital Days, and Optical Services. The State 2 screened sample exhibited utilization increases in all but the Optical Services category.*

*Viewed by individual service type, members of the unscreened sample in both State 1 and State 2 demonstrated mixed increases and decreases in their utilization patterns throughout the three-year study period. The overall rates of utilization by unscreened persons for all medical service types combined increased from 1974 to 1975 in both States 1 and 2, with a greater increase exhibited in State 1. From 1975 to 1976, the State 1 unscreened sample demonstrated a decrease in service utilization whereas the State 2 unscreened sample*





*demonstrated a slight (3 percent) increase. The unscreened samples of both states showed net increases in the use of medical services between 1974 and 1976, with a higher overall increase in State 2.*

*In both states, the expenditure findings were seen to largely parallel the utilization findings. Slight fluctuations were accounted for by changes in costs per unit of service. Percentage differences in unit costs were negligible throughout the three-year study period. In both State 1 and State 2, however, members of the EPSDT (screened) sample exhibited slightly greater increases in costs per unit of service than did members of the non-EPSDT (unscreened) sample.*

In comparing the figures exhibited by the EPSDT (screened) and the non-EPSDT (unscreened) samples between State 1 and 2, some general patterns can be observed. In the area of medical service utilization, members of the screened sample exhibited a higher rate of increase in State 1 than did their State 2 counterparts between 1974 and 1975. The actual per capita utilization rates, however, were much lower in State 1 than in State 2 in 1974. Even after a higher increase in the rate of service use from 1974 to 1975, State 1 screened eligibles continued to exhibit lower per capita utilization figures in 1975 (see Tables 2.3 and 3.3). Between 1975 and 1976, the utilization rate for all combined medical services declined by 29 percent for State 1 screened persons, but showed no change for those in State 2. The utilization figures for the EPSDT sample showed overall percentage increases in both states from 1974 to 1976 which were very comparable. Per capita utilization figures in the year after screening, however, were almost twice as high for EPSDT members of the State 2 sample as those exhibited by their State 1 counterparts.

Members of the unscreened samples in State 1 and 2 exhibited overall utilization change patterns similar to those of the screened samples, however, percentage changes were not as pronounced. Increases were demonstrated in rates of utilization by unscreened members in both states from 1974 to 1975, with the increase more pronounced in State 1. Unscreened persons showed a decrease in medical service utilization from 1974 to 1975 in State 1, but a slight (3%) increase in State 2.



The overall figures for the period 1974 to 1976 indicated increases in service use by unscreened persons slightly higher in State 2 than State 1. In both states, increases in utilization rates exhibited by screened persons were greater than those exhibited by unscreened persons. The per capita utilization rates for all combined medical services, however, showed that unscreened persons in both States 1 and 2 actually used more services than screened persons in all three study years except 1975 in State 1. (In this case, the utilization rates were almost identical.) As demonstrated in the screened samples, unscreened persons in State 1 consistently used fewer services than their State 2 counterparts in all three study years. This may be due largely to the fact that State 1 is predominantly rural whereas State 2 is relatively urban. The greater accessibility of service providers in an urban setting may account for the higher overall utilization rates exhibited by both screened and unscreened individuals in State 2.

Expenditure findings for all combined medical services for each sample group in the two study states closely paralleled the utilization findings. Slight discrepancies in this pattern were caused by fluctuations in the costs per unit of service. Unit costs exhibited net changes from 1974 to 1976 which were negligible in the unscreened sample groups of both states. Members of the screened samples exhibited net increases in unit costs of 7 and 12 percent in State 1 and 2, respectively. In State 2, the actual unit costs of all combined service types were lower for screened than unscreened people in the year prior to screening. The 12 percent increase in unit costs exhibited from 1974 to 1976 by the screened sample, therefore, served to bring the figures for both sample groups closer together (\$15.44 per unit of service by screened and \$15.83 for unscreened in 1976). In State 1, however, unit costs were slightly higher for screened than for unscreened individuals in 1974. In 1976, due to the changes described above, unit costs were still greater for screened than unscreened persons. In comparing the actual unit costs of the two study states, screened eligibles in the State 1 sample exhibited slightly higher unit





costs in all three years than their State 2 counterparts. Unscreened eligibles in State 1 showed slightly lower unit costs than did the State 2 unscreened eligibles. Actual per capital expenditures, however, were lower in both the EPSDT and the non-EPSDT sample groups in State 1 than in State 2, due mainly to the utilization rates which also exhibited this tendency.

The fact that both utilization and expenditure levels were lower in State 1 than in State 2 suggests that there is less scope for EPSDT to reduce "unnecessary" service use in the former state. To attain optimal and equivalent service utilization patterns in the two states, increased service use in State 1 and decreased use in State 2 may be called for simultaneously.

In the year prior to screening, 69 percent of the eligibles in the study sample submitted claims to Medicaid in State 1. Of these people, 45 percent were in the screened sample and 55 percent were in the unscreened sample. In terms of the actual units of service, screened persons in State 1 used 27 percent\* fewer services than did unscreened persons in 1974. By comparison, a greater proportion (78 percent) of the 1974 eligibles in the sample submitted Medicaid claims in State 2. Of this number, 46 percent were members of the screened sample and 54 percent were members of the unscreened sample, a breakdown almost identical to that in State 1. Screened individuals in State 2 used 16 percent fewer units of service than unscreened individuals in 1974, a somewhat smaller difference than that exhibited in State 1.

In the year that screening took place, 90 percent of the sample eligibles submitted medical claims to Medicaid in State 1. Of these claims, 56 percent were from screened persons and 44 percent were from unscreened persons. The actual number of service units

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\* Figures for the relative utilization rates of screened and unscreened persons were taken from Tables A.5, B.5, and C.5 for State 1 and Tables A.10, B.10, and C.10 for State 2. These tables have been presented in the appendices for reference purposes.



reimbursed by Medicaid in 1975 was 5 percent greater for screened than unscreened individuals. In State 2, the percentage of eligibles who submitted claims to Medicaid (93 percent) in the year of screening was very comparable to the State 1 figure. Of this 93 percent, 53 percent of the claims were from screened persons and 47 percent were from unscreened persons. In terms of actual units of service reimbursed by Medicaid, however, the screened sample exhibited a 6 percent lower overall utilization rate than the unscreened sample.

In 1976, the year following screening, 77 percent of the eligibles in the State 1 sample submitted medical service claims to Medicaid. Of these claims, 51 percent were from members of the screened group and 49 percent were from members of the unscreened group. The State 1 screened sample, however, used a total of 18 percent fewer units of service in 1976 than did the unscreened sample. In State 2, a higher percentage (88%) of the eligible population in the study sample submitted claims than in State 1. Of this figure, 48 percent of the claims were from screened persons and 52 percent were from unscreened persons. The overall utilization rate displayed by the screened sample was 8 percent lower than that of the unscreened sample.

These data indicate that a greater percentage of the eligible population in the study sample submitted claims in State 2 than in State 1 in all three years of the study. This may be due to any number of factors, including degree of urbanicity, provider participation rates, etc. For example, the greater urbanicity of State 2 may induce greater accessibility of medical service providers and, therefore, higher rates of service utilization. This is demonstrated by both the EPSDT and the non-EPSDT sample populations in the data presented on Tables A.1, A.6, B.1, B.6, C.1, and C.6 in the appendices.



By state, the screened sample in State 1 submitted a higher percentage of claims in 1975 than in 1974. In 1976, this percentage decreased slightly, but remained higher than the 1974 figure. At the end of the three-year study period, the percentage of eligibles filing claims to Medicaid was almost equal by screened and unscreened individuals. Members of the screened sample in State 2 exhibited a similar pattern, submitting more claims in 1975 (the year of screening) than 1974 and fewer in 1976 than in 1975. The percentage of claims submitted by screened persons in 1976, however, was almost identical to the percentage submitted in 1974. At the end of the study period in State 2, screened persons submitted a slightly lower percentage of claims than did unscreened persons.

In States 1 and 2, separate analyses were conducted for those individuals who maintained Medicaid eligibility throughout the entire three-year (36 month) period. The data for continuous eligibles have been presented in Tables 4.1-4.4 in terms of the percentage change from 1974 to 1976 in service utilization, expenditures, and unit costs. To facilitate comparisons between continuous eligibles and the entire sample ("all eligibles"), data from 1974 to 1976 have been repeated here from Tables 2.1, 2.2, 3.1, and 3.2. Although not displayed on the tables, 319 screened individuals and 400 unscreened individuals maintained continuous eligibility from 1974 to 1976 in State 1. These figures represent 40 and 50 percent of the screened and unscreened samples, respectively, and 45 percent of the total sample. In State 2, 297 screened persons and 424 unscreened persons maintained continuous, three-year eligibility, representing 37 and 53 percent of their respective sub-samples, and, again, 45 percent of the total sample. That these figures are so similar between the two sample states is of interest, however their consistency appears to be the result of factors operating independently from the EPSDT program.





TABLE 4.1: PERCENTAGE CHANGE IN UTILIZATION PER CAPITA, COST PER CAPITA, AND COST PER UNIT OF SERVICE BETWEEN 1974 AND 1976 - ALL ELIGIBLES VERSUS CONTINUOUS (36 MONTH) ELIGIBLES - STATE 1, EPSDT SAMPLE POPULATION\*

DATA GROUP	PERIOD OF SERVICE	SERVICES												TOTAL ALL SERVICES	
		General Outpatient Services					Rx	Inpatient Related			Dental & Optical		Other		
		Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	TOTAL		Physician Visits	Inpatient Hospital Days	TOTAL	Dental Procedures	Optical Service Visits			TOTAL
UTILIZATION/ CAPITA	1974-76 All Eligibles	18%	58%	185%	92%	48%	- 2%	99%	-21%	24%	43%	-14%	40%	230%	29%
	1974-76 Continuous Eligibles **	18%	51%	89%	200%	34%	-23%	99%	28%	69%	45%	-17%	42%	175%	20%
COST/CAPITA	1974-76 All Eligibles	25%	120%	141%	245%	73%	11%	66%	13%	27%	13%	15%	14%	341%	38%
	1974-76 Continuous Eligibles **	40%	93%	61%	436%	62%	-13%	93%	129%	115%	11%	15%	12%	108%	54%
COST/UNIT OF SERVICE	1974-76 All Eligibles	7%	39%	-15%	80%	16%	13%	-17%	43%	2%	-21%	35%	-19%	34%	7%
	1974-76 Continuous Eligibles **	19%	27%	-15%	79%	21%	12%	- 3%	79%	27%	-23%	39%	-21%	-24%	28%

\*Positive figures indicate an increase from 1974 to 1976, whereas negative figures indicate a decrease.

\*\*To ensure comparability, figures for continuous eligibles have been adjusted to reflect the same stratum-by-stratum proportion of the sample population as the figures for all eligibles.



EXHIBIT 4.2: PERCENTAGE CHANGE IN UTILIZATION PER CAPITA, COST PER CAPITA, AND COST PER UNIT OF SERVICE BETWEEN 1974 AND 1976 - ALL ELIGIBLES VERSUS CONTINUOUS (36 MONTH) ELIGIBLES - STATE 1, NON-EPSDT SAMPLE POPULATION\*

DATA GROUP	PERIOD OF SERVICE	SERVICES												TOTAL ALL SERVICES	
		General Outpatient Services					RX	Inpatient-Related			Dental & Optical		Other		
		Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	T O T A L	Pharma- ceutical Prescrip- tions	Physician Other Visits	Inpatient Hospital Days	T O T A L	Dental Procedures	Optical Service Visits	T O T A L		Other Service Units
UTILIZATION/ CAPITA	1974-76 All Eligibles	5%	69%	- 5%	-32%	13%	-13%	28%	-39%	-21%	57%	-12%	52%	3343%	15%
	1974-76 Continuous Eligibles	10%	75%	14%	-40%	18%	-24%	66%	30%	42%	57%	-12%	52%	280%	14%
COST/CAPITA	1974-76 All Eligibles	1%	137%	16%	-24%	37%	- 6%	- 6%	- 8%	- 7%	15%	- 9%	11%	311%	12%
	1974-76 Continuous Eligibles	6%	155%	50%	-30%	44%	-14%	41%	150%	118%	14%	- 6%	11%	-19%	46%
COST/UNIT OF SERVICE	1974-76 All Eligibles	-4%	40%	22%	11%	22%	8%	-26%	52%	17%	-27%	3%	-27%	-88%	- 3%
	1974-76 Continuous Eligibles	-4%	46%	32%	17%	21%	14%	-15%	92%	54%	-27%	7%	-27%	-79%	27%

\*Positive figures indicate an increase from 1974 to 1976, whereas negative figures indicate a decrease.

\*\*To ensure comparability, figures for continuous eligibles have been adjusted to reflect the same stratum-by-stratum proportion of the sample population as the figures for all eligibles.





TABLE 4.3: PERCENTAGE CHANGE IN UTILIZATION PER CAPITA, COST PER CAPITA, AND COST PER UNIT OF SERVICE BETWEEN 1974 AND 1976 - ALL ELIGIBLES VERSUS CONTINUOUS (36 MONTH) ELIGIBLES - STATE 2, EPSDT SAMPLE POPULATION\*

DATA GROUP	PERIOD OF SERVICE	SERVICES													TOTAL  ALL SERVICES
		General Outpatient Services					RX	Inpatient-Related			Dental & Optical			Other Service Units	
		Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	TOTAL		Pharmaceutical Prescriptions	Physician Other Visits	Inpatient Hospital Days	TOTAL	Dental Procedures	Optical Service Visits		
UTILIZATION/ CAPITA	1974-76 All Eligibles	16%	26%	419%	192%	.26%	35%	105%	17%	3%	101%	- 5%	83%	47%	32%
	1974-76 Continuous Eligibles	- 6%	2%	159%	107%	0%	- 5%	25%	-41%	-24%	55%	- 3%	45%	41%	8%
COST/CAPITA	1974-76 All Eligibles	27%	76%	460%	139%	57%	12%	72%	73%	73%	34%	-15%	17%	- 3%	48%
	1974-76 Continuous Eligibles	- 5%	64%	164%	126%	28%	7%	7%	- 9%	- 6%	-12%	- 4%	- 9%	0%	10%
COST/UNIT OF SERVICE	1974-76 All Eligibles	9%	40%	8%	-18%	24%	9%	-16%	48%	25%	-33%	-11%	-36%	-34%	12%
	1974-76 Continuous Eligibles	1%	62%	2%	9%	28%	12%	-14%	53%	23%	-43%	0%	-37%	-29%	2%

\*Positive figures indicate an increase from 1974 to 1976, whereas negative figures indicate a decrease.

\*\*To ensure comparability, figures for continuous eligibles have been adjusted to reflect the same stratum-by-stratum proportion of the sample population as the figures for all eligibles.



TABLE 4.4: PERCENTAGE CHANGE IN UTILIZATION PER CAPITA, COST PER CAPITA, AND COST PER UNIT OF SERVICE BETWEEN 1974 AND 1976 - ALL ELIGIBLES VERSUS CONTINUOUS (36 MONTH) ELIGIBLES - STATE 2, NON-EPSDT SAMPLE POPULATION\*

DATA GROUP	PERIOD OF SERVICE	SERVICES													TOTAL ALL SERVICES
		General Outpatient Services					RX	Inpatient-Related			Dental & Optical		Other		
		Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	TOTAL		Physician Other Visits	Inpatient Hospital Days	TOTAL	Dental Procedures	Optical Service Visits		TOTAL	
UTILIZATION/ CAPITA	1974-76 All Eligibles	16%	5%	119%	0%	15%	- 4%	- 4%	-19%	-15%	101%	0%	86%	55%	21%
	1974-76 Continuous Eligibles	9%	-18%	108%	- 4%	4%	-11%	-10%	-26%	-22%	80%	4%	69%	44%	11%
COST/CAPITA	1974-76 All Eligibles	26%	47%	198%	34%	42%	6%	18%	12%	13%	30%	- 1%	22%	2%	24%
	1974-76 Continuous Eligibles	18%	19%	110%	21%	22%	0%	-18%	- 8%	-10%	20%	4%	16%	6%	6%
COST/UNIT OF SERVICE	1974-76 All Eligibles	8%	40%	37%	34%	24%	10%	23%	39%	34%	-35%	- 1%	-34%	-34%	2%
	1974-76 Continuous Eligibles	8%	46%	1%	27%	17%	12%	-8%	24%	15%	-33%	1%	-31%	-26%	- 4%

\*Positive figures indicate an increase from 1974 to 1976, whereas negative figures indicate a decrease.  
 \*\*To ensure comparability, figures for continuous eligibles have been adjusted to reflect the same stratum-by-stratum proportion of the sample population as the figures for all eligibles.





The overall trends exhibited by continuous eligibles between 1974 and 1976 for all Medicaid medical services combined are as described below. Continuous eligibles in the State 1 EPSDT sample showed lower rates of increase in utilization of medical services, but higher increases in expenditure levels than did the entire EPSDT sample. These expenditure increases were largely due to markedly higher increases in costs per unit of service by continuous eligibles than those exhibited by the entire sample (28 percent, as opposed to 7 percent) from 1974 to 1976. Continuous eligibles in the unscreened sample in State 1 exhibited rates of increase in utilization almost identical to those exhibited by the entire unscreened sample. Increases in expenditure levels, however, were much greater for continuous eligibles due to the higher percentage increase in unit costs demonstrated by this group. In State 2, continuous eligibles in both the screened and the unscreened samples demonstrated lower rates of increase than the entire sample in utilization, expenditures, and unit costs for all combined Medicaid medical services.

In terms of the utilization findings alone, continuous eligibles in both sample groups of both states exhibited slightly lower percentage increases over the three-year study period than did the samples representing all eligibles. Bearing in mind that the data for "all eligibles" were adjusted for partial years of eligibility to ensure comparability (see Section II, page 14), the higher rate of increase among non-continuous eligibles could be construed to have resulted from a more concentrated usage of medical services during their actual periods of eligibility.

The general tendency for screened eligibles to exhibit greater rates of increase in medical utilization (beyond the screening visits themselves) than unscreened eligibles between 1974 and 1975 may, in part, be due to an initial reactive effect of the screening process itself. This is suggested by the fact that in both State 1





and State 2, the sample of individuals who received screening were selected through outreach. Individuals who were screened, therefore, may have felt as though they were being given preferential attention and may have initially participated at a higher rate in order to meet the expectations of the EPSDT program. As the initial enthusiasm of participating in a new program (the reactive effect) diminished, the data would tend to represent the truer utilization patterns of the same groups. In 1976, the screened samples of both states exhibited lower percentage increases in service utilization than in 1974. These percentage increases, however, remained higher than those exhibited by the unscreened samples. This may indicate a lessening of the reactive effect of the actual screening procedure in addition to the natural reduction of service use following the receipt of treatment.

The data from the year after screening (1976) indicate that members of the EPSDT sample in both study states were using more Medicaid medical services than in the year prior to screening (1974). This suggests that the EPSDT program introduced previously low users into the health care system and made them more health-maintenance oriented. The data also demonstrate that screened persons in State 1 and State 2 used fewer units of service than unscreened persons in both 1974 and 1976. It might be conjectured from this that members of the screened samples were healthier than members of the unscreened samples to begin with and, therefore, had less reason to utilize medical services. On the other hand, the EPSDT sample may include individuals who had a lower "health IQ" or awareness of the need for regular medical care. In the year of screening, however, members of the experimental group exhibited utilization rates which were comparable to those of members of the control group.\* The fact that screening visits do not account for the increased service use demonstrated by the EPSDT group indicates that they were not inherently healthier.

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\*Note that all 1975 data are exclusive of the actual screening procedures. The utilization and expenditure figures for the screened group in this year, therefore, are net of those associated with the screening visits.



Rather, members of the EPSDT sample evidently had health impairments which were identified and treated through implementation of the EPSDT program. That the utilization rates exhibited by screened persons in 1976 decreased in State 1 and leveled-off in State 2 indicates that these diagnosed health deficiencies were being successfully treated.

Whether EPSDT served to change the actual health care habits of screened persons over time, thereby rendering them more health-care oriented, cannot be definitely concluded from these data. Suffice it to say, however, that the EPSDT process in these two states apparently resulted in two distinct effects: first, to significantly increase utilization concurrent with the receipt of screening services on a one-time basis; and, second, to raise the overall utilization of medical care among the screened sample to levels greater than those before screening and approaching those of the unscreened sample in the immediate short-run (i.e., one year after screening). It is also apparent from the reported data that both states selected individuals (either implicitly or explicitly) to participate in their respective EPSDT programs who were atypically low users of medical care. To the extent that these individuals were low users for the wrong reasons (e.g., lack of access to medical care, poor health habits), the EPSDT program in both states must be judged a qualified success in that the utilization rates of the screened sample in the year after screening were definitely more representative of those of the unscreened sample than was the case in the year before screening. However, as must be the case in a study such as this one, the available secondary data really cannot depict the full impact of the EPSDT program and, therefore, the above findings must be regarded as suggestive, rather than definitive, in nature. The final answers await more comprehensive and systematic research of the EPSDT (or its successor) program's impact.





APPENDIX A

1976  
Utilization and Expenditure Tables



TABLE A.1: MEDICAID UTILIZATION BY THE SAMPLE POPULATION IN STATE 1, BY AGE/RACE STRATUM, SCREENING STATUS, AND SERVICE TYPE: 1976  
(ADJUSTED FOR PARTIAL YEARS OF ELIGIBILITY)

Recipient Group	SEX	SERVICES													SAMPLE	TOTAL
		General Outpatient Services					RX	Inpatient-Related			Dental & Optical			Other		
		Physician Office Visits	Outpatient Clinic Visits	Physician Emergency Visits	TOTAL	Pharmaceutical Prescriptions		Physician Other Visits	Inpatient Hospital Days	TOTAL	Dental Procedures	Optical Service Visits	TOTAL			
WHITE AGE 0-6	YES	75	27	38	0	140	49	15	3	18	5	0	5	0	37	212
	NO	48	24	3	2	77	66	9	19	28	74	3	77	0	37	248
WHITE AGE 7-21	YES	201	52	129	3	385	216	53	20	73	296	10	306	6	131	986
	NO	213	79	34	3	329	325	59	30	89	455	11	466	12	131	1221
OTHER AGE 0-6	YES	172	58	49	7	286	200	39	10	49	76	5	81	5	77	621
	NO	240	18	12	1	271	227	10	10	20	236	1	237	2	77	757
OTHER AGE 7-21	YES	765	224	388	13	1390	907	188	160	348	1515	50	1565	22	555	4232
	NO	923	314	163	7	1407	1353	110	176	286	1822	95	1917	227	555	5190
TOTALS	YES	1213	361	604	23	2201	1372	295	193	488	1892	65	1957	33	800	6051
	NO	1424	435	212	13	2084	1971	188	235	423	2587	110	2697	241	800	7416



TABLE A.2: PER CAPITA MEDICAID UTILIZATION BY THE SAMPLE POPULATION IN STATE 1, BY AGE/RACE STRATUM, SCREENING STATUS, AND SERVICE TYPE: 1976 (ADJUSTED FOR PARTIAL YEARS OF ELIGIBILITY)

Recipient Group	S C R E E N E D	SERVICES												S A M P L E	F O L L O W U P	D E T A I L E D	
		General Outpatient Services					RX	Inpatient-Related				Dental & Optical					Other
		Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	T O T A L		Pharmaceutical Prescrip- tions	Physician Other Visits	Inpatient Hospital Days	T O T A L	Dental Procedures	Optical Service Visits				
WHITE AGE 0-6	YES	2.04	0.74	1.04	0.0	3.82	1.33	0.41	0.07	0.48	0.15	0.0	0.15	0.0	37	5.78	9.61
	NO	1.30	0.66	0.07	0.05	2.08	1.77	0.24	0.51	0.75	2.00	0.07	2.07	0.0	37	6.67	7.90
WHITE AGE 7-21	YES	1.54	0.40	0.99	0.02	2.95	1.65	0.40	0.15	0.55	2.26	0.08	2.34	0.05	131	7.54	9.51
	NO	1.62	0.60	0.26	0.02	2.50	2.48	0.45	0.23	0.68	3.47	0.08	3.55	0.09	131	9.30	12.39
OTHER AGE 0-6	YES	2.24	0.75	0.64	0.09	3.72	2.60	0.51	0.13	0.64	0.99	0.06	1.05	0.07	77	8.08	9.50
	NO	3.12	0.23	0.15	0.01	3.51	2.95	0.14	0.14	0.28	3.07	0.01	3.08	0.02	77	9.84	11.30
OTHER AGE 7-21	YES	1.38	0.40	0.70	0.02	2.50	1.63	0.34	0.29	0.63	2.73	0.09	2.82	0.04	555	7.62*	10.79
	NO	1.66	0.57	0.29	0.01	2.53	2.44	0.20	0.32	0.52	3.28	0.17	3.45	0.41	555	9.35*	14.50
TOTALS	YES (S.D.)	1.52 (2.92)	0.45 (1.28)	0.76** (2.19)	0.03 (0.20)	2.76 (4.38)	1.72** (3.64)	0.37 (1.78)	0.24 (1.55)	0.61 (3.00)	2.37** (5.18)	0.08** (0.33)	2.45** (5.22)	0.04 (0.42)	800	7.58** (10.41)	
	NOT (S.D.)	1.78 (3.03)	0.54 (1.69)	0.26** (0.88)	0.02 (0.16)	2.60 (3.79)	2.46** (4.93)	0.24 (1.31)	0.29 (1.73)	0.53 (2.52)	3.23** (6.04)	0.14* (0.65)	3.37** (6.10)	0.30 (8.17)	800	9.26** (13.61)	

†S.D. = Standard Deviation

\* = Difference between screened and unscreened people is statistically significant at the .05 level

\*\* = Difference between screened and unscreened people is statistically significant at the .01 level





TABLE A.3: MEDICAID EXPENDITURES BY THE SAMPLE POPULATION IN STATE 1, BY AGE/RACE STRATUM, SCREENING STATUS, AND SERVICE TYPE: 1976  
(ADJUSTED FOR PARTIAL YEARS OF ELIGIBILITY)

Recipient Group	S C R E E N E D	SERVICES													S A M P L E	T O T A L S	
		General Outpatient Services						RX	Inpatient-Related			Dental & Optical					Other
		Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	T O T A L	Pharma- ceutical Prescrip- tions		Physician Other Visits	Inpatient Hospital Days	T O T A L	Dental Procedures	Optical Service Visits	T O T A L			
WHITE AGE 0-6	YES	\$ 832	\$ 999	\$ 460	\$ 0	\$ 2291	\$ 192	\$ 402	\$ 569	\$ 971	\$ 38	\$ 0	\$ 38	37	\$ 3492		
	NO	\$ 495	\$ 715	\$ 32	\$ 18	\$ 1260	\$ 250	\$ 397	\$ 2101	\$ 2498	\$ 522	\$ 50	\$ 572	37	\$ 4580		
WHITE AGE 7-21	YES	\$ 2550	\$ 2447	\$1759	\$ 61	\$ 6817	\$ 988	\$ 1466	\$ 2257	\$ 3723	\$ 2349	\$ 339	\$ 2688	131	\$ 14716		
	NO	\$ 2233	\$ 2522	\$ 483	\$ 32	\$ 5270	\$ 1752	\$ 2106	\$ 3557	\$ 5663	\$ 3319	\$ 308	\$ 3627	131	\$ 16981		
OTHER AGE 0-6	YES	\$ 1915	\$ 1909	\$ 571	\$118	\$ 4513	\$ 721	\$ 863	\$ 1804	\$ 2667	\$ 632	\$ 132	\$ 764	77	\$ 8771		
	NO	\$ 2548	\$ 460	\$ 140	\$ 7	\$ 3155	\$ 838	\$ 255	\$ 1253	\$ 1508	\$ 1674	\$ 24	\$ 1698	77	\$ 7220		
OTHER AGE 7-21	YES	\$ 8697	\$ 7887	\$5227	\$207	\$22018	\$ 3681	\$ 9066	\$17705	\$26771	\$12301	\$1774	\$14075	555	\$ 66838		
	NO	\$ 9434	\$10516	\$2476	\$ 70	\$22496	\$ 5266	\$ 5904	\$21543	\$27447	\$12845	\$2092	\$14937	555	\$ 74728		
TOTALS	YES	\$13994	\$13242	\$8017	\$386	\$35639	\$ 5582	\$11797	\$22335	\$34132	\$15320	\$2245	\$17565	800	\$ 93817		
	NO	\$14710	\$14213	\$3131	\$127	\$32181	\$ 8106	\$ 8662	\$28454	\$37116	\$18360	\$2474	\$20834	800	\$103509		



TABLE A.4: PER CAPITA MEDICAID EXPENDITURES BY THE SAMPLE POPULATION IN STATE 1, BY AGE/RACE STRATUM, SCREENING STATUS, AND SERVICE TYPE: 1976 (ADJUSTED FOR PARTIAL YEARS OF ELIGIBILITY)

Recipient Group	S C R E E N E D	SERVICES											S A M P L E	T O T A L \$	D E V I A T I O N S	
		General Outpatient Services					RX	Inpatient Related			Dental & Optical					Other
		Physician Office Visits	Outpatient Clinic Visits	Physician Emergency Visits	T O T A L	Pharma- ceutical Prescrip- tions		Physician Other Visits	Inpatient Hospital Days	T O T A L	Dental Procedures	Optical Service Visits				
WHITE AGE 0-6	YES	\$ 22.48	\$ 26.99	\$ 12.44	\$ 0.0	\$ 61.91	\$ 5.18	\$ 10.87	\$ 15.37	\$ 26.24	\$ 0.0	\$ 1.02	\$ 0.0	\$ 94.37	37	159.26
	NO	\$ 13.37	\$ 19.31	\$ 0.88	\$ 0.49	\$ 34.05	\$ 6.75	\$ 10.73	\$ 56.78	\$ 67.51	\$ 1.35	\$ 15.45	\$ 0.0	\$ 123.76	37	254.00
WHITE AGE 7-21	YES	\$ 19.46	\$ 18.68	\$ 13.43	\$ 0.47	\$ 52.04	\$ 7.54	\$ 11.19	\$ 17.23	\$ 28.42	\$ 2.59	\$ 20.52	\$ 3.82	\$ 112.34	131	195.30
	NO	\$ 17.05	\$ 19.25	\$ 3.69	\$ 0.24	\$ 40.23	\$ 13.37	\$ 16.08	\$ 27.15	\$ 43.23	\$ 2.35	\$ 27.69	\$ 5.10	\$ 129.62	131	250.46
OTHER AGE 0-6	YES	\$ 24.87	\$ 24.80	\$ 7.41	\$ 1.54	\$ 58.62	\$ 9.36	\$ 11.21	\$ 23.42	\$ 34.63	\$ 1.71	\$ 9.92	\$ 1.38	\$ 113.91	77	313.14
	NO	\$ 33.09	\$ 5.98	\$ 1.81	\$ 0.09	\$ 40.97	\$ 10.89	\$ 3.31	\$ 16.28	\$ 19.59	\$ 0.31	\$ 22.05	\$ 0.28	\$ 93.78	77	133.69
OTHER AGE 7-21	YES	\$ 15.67	\$ 14.21	\$ 9.42	\$ 0.37	\$ 39.67	\$ 6.63	\$ 16.34	\$ 31.91	\$ 48.25	\$ 3.20	\$ 25.37	\$ 0.53	\$ 120.45	555	349.10
	NO	\$ 17.00	\$ 18.95	\$ 4.46	\$ 0.13	\$ 40.54	\$ 9.49	\$ 10.64	\$ 38.82	\$ 49.46	\$ 3.77	\$ 26.92	\$ 8.26	\$ 134.67	555	355.97
TOTALS	YES (S.D)	\$ 17.49 (35.09)	\$ 16.55 (55.59)	\$ 10.02 (33.34)	\$ 0.48* (3.88)	\$ 44.54 (85.31)	\$ 6.98** (17.43)	\$ 14.75 (78.75)	\$ 27.92 (196.95)	\$ 42.67 (259.24)	\$ 2.81 (11.88)	\$ 21.96 (48.82)	\$ 1.12 (19.42)	\$ 117.27 (318.14)	800	
	NO (S.D)	\$ 18.39 (31.95)	\$ 17.77 (71.49)	\$ 3.91** (13.06)	\$ 0.16* (1.61)	\$ 40.23 (82.39)	\$ 10.13** (28.20)	\$ 10.83 (50.04)	\$ 35.57 (197.91)	\$ 46.40 (226.48)	\$ 3.09 (13.45)	\$ 26.04 (49.39)	\$ 6.59 (165.67)	\$ 129.39 (320.63)	800	

+ S.D. = Standard Deviation

\* = Difference between screened and unscreened people is statistically significant at the .05 level

\*\* = Difference between screened and unscreened people is statistically significant at the .01 level





TABLE A.5: PERCENT DIFFERENCE IN UTILIZATION PER CAPITA, COST PER UNIT OF SERVICE BETWEEN EPSDT SAMPLE POPULATION AND NON-EPSDT SAMPLE POPULATION - STATE 1, 1976\*

DATA GROUP	SERVICES													
	General Outpatient Services						Inpatient-Related				Dental & Optical		Other Service Units	TOTAL
	Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	TOTAL	Pharmaceutical Prescriptions	Physician Other Visits	Inpatient Hospital Days	TOTAL	Dental Procedures	Optical Service Visits	TOTAL		
UTILIZATION/ CAPITA	- 15%	- 17%	185%	77%	6%	- 30%	57%	- 18%	15%	- 27%	- 41%	- 27%	- 86%	- 18%
COST/CAPITA	- 5%	- 7%	156%	204%	11%	- 31%	36%	- 22%	- 8%	- 17%	- 9%	- 16%	- 83%	- 9%
COST/UNIT OF SERVICE	12%	12%	- 10%	72%	5%	- 1%	- 13%	- 4%	- 20%	14%	54%	16%	24%	11%

\*Negative figures indicate lower values for screened than for unscreened eligibles.



TABLE A.6: MEDICAID UTILIZATION BY THE SAMPLE POPULATION IN STATE 2 BY AGE/RACE STRATUM, SCREENING STATUS, AND SERVICE TYPE: 1976  
(ADJUSTED FOR PARTIAL YEARS OF ELIGIBILITY)

Recipient Group	S C R E E N E D	SERVICES												S A M P L E	T O T A L S	
		General Outpatient Services						RX	Inpatient-Related			Dental & Optical				Other
		Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	TOTAL	Pharmaceutical Prescriptions		Physician Other Visits	Inpatient Hospital Days	TOTAL	Dental Procedures	Optical Service Visits			
WHITE AGE 0-6	YES	344	67	11	12	434	402	14	76	90	148	11	159	5	81	1090
	NO	294	87	8	17	406	349	23	38	61	317	17	334	8	81	1158
WHITE AGE 7-21	YES	546	198	24	35	803	760	74	123	197	1431	59	1490	49	173	3299
	NO	601	223	42	24	890	757	41	87	128	1447	100	1547	34	173	3356
OTHER AGE 0-6	YES	613	217	28	48	906	804	36	69	105	349	52	401	34	179	2250
	NO	680	217	24	6	927	999	42	121	163	443	39	482	81	179	2652
OTHER AGE 7-21	YES	1009	361	129	19	1518	1177	79	99	178	1373	208	1581	145	367	4599
	NO	1077	357	79	21	1534	1552	94	215	309	1462	160	1622	94	367	5111
TOTALS	YES	2512	843	192	114	3661	3143	203	367	570	3301	330	3631	233	800	11238
	NO	2652	884	153	68	3757	3657	200	461	661	3669	316	3985	217	800	12277



TABLE A.7: PER CAPITA MEDICAID UTILIZATION BY THE SAMPLE POPULATION IN STATE 2, BY AGE/RACE STRATUM, SCREENING STATUS, AND SERVICE TYPE: 1976\*  
(ADJUSTED FOR PARITIAL YEARS OF ELIGIBILITY)

Recipient Group	S C R E E N E D	SERVICES												S A N P L E	F O L L O W U P	D E T A I L S
		General Outpatient Services					RX	Inpatient-Related			Dental & Optical		Other			
		Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	T O T A L		Pharma- ceutical Prescrip- tions	Physician Other Visits	Inpatient Hospital Days	T O T A L	Dental Procedures				
WHITE AGE 0-6	YES	4.25	0.82	0.14	0.15	5.36	4.97	0.17	0.94	1.11	1.83	0.14	1.97	0.07	13.48	15.17
	NO	3.64	1.08	0.09	0.21	5.02	4.31	0.29	0.46	0.75	3.91	0.21	4.12	0.09	14.29	13.51
WHITE AGE 7-21	YES	3.15	1.14	0.14	0.20	4.63	4.40	0.43	0.71	1.14	8.27	0.34	8.61	0.28	19.06	37.55
	NO	3.48	1.29	0.24	0.14	5.15	4.37	0.24	0.50	0.74	8.37	0.58	8.95	0.20	19.41	26.20
OTHER AGE 0-6	YES	3.43	1.21	0.15	0.27	5.06	4.49	0.20	0.38	0.58	1.95	0.29	2.24	0.19	12.56	19.76
	NO	3.80	1.21	0.14	0.04	5.19	5.58	0.24	0.68	0.92	2.47	0.22	2.69	0.45	14.83	15.88
OTHER AGE 7-21	YES	2.75	0.98	0.35	0.05	4.13	3.21	0.21	0.27	0.48	3.74	0.57	4.31	0.40	12.53	16.46
	NO	2.93	0.97	0.22	0.06	4.18	4.23	0.26	0.58	0.84	3.98	0.44	4.42	0.25	13.92	16.50
TOTALS	YES† (S.D.)	3.14 (4.71)	1.05 (3.14)	0.24 (1.16)	0.14 (1.45)	4.57 (7.75)	3.93 (8.00)	0.25 (1.53)	0.46 (3.83)	0.71 (4.55)	4.13 (12.94)	0.41 (1.03)	4.54 (13.10)	0.29 (1.29)	14.04 (23.34)	
	NO† (S.D.)	3.52 (4.86)	1.11 (2.08)	0.19 (1.19)	0.09 (0.44)	4.71 (5.84)	4.57 (7.64)	0.25 (0.91)	0.58 (2.79)	0.83 (3.38)	4.59 (11.10)	0.59 (0.91)	4.98 (11.20)	0.27 (0.84)	15.36 (18.75)	

\* = Differences between screened and unscreened people were not statistically significant

† S.D. = Standard Deviation





TABLE A.8: MEDICAID EXPENDITURES BY THE SAMPLE POPULATION IN STATE 2 BY AGE/RACE STRATUM, SCREENING STATUS, AND SERVICE TYPE: 1976  
(ADJUSTED FOR PARTIAL YEARS OF ELIGIBILITY)

Recipient Group	S C R E E N E D	SERVICES													S A M P L E	T O T A L S
		General Outpatient Services					RX	Inpatient-Related			Dental & Optical			Other		
		Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	T O T A L		Pharma- ceutical Prescrip- tions	Physician Other Visits	Inpatient Hospital Days	T O T A L	Dental Procedures	Optical Service Visits			
WHITE AGE 0-6	YES	\$ 3874	\$ 2201	\$ 343	\$ 95	\$ 6513	\$ 1570	\$ 470	\$ 6108	\$ 6578	\$ 650	\$ 191	\$ 841	\$ 48	81	\$ 15550
	NO	\$ 3560	\$ 3004	\$ 159	\$ 174	\$ 6897	\$ 1405	\$ 1379	\$ 4777	\$ 6156	\$ 1776	\$ 293	\$ 2069	\$ 60	81	\$ 16587
WHITE AGE 7-21	YES	\$ 7790	\$ 7555	\$ 567	\$ 216	\$ 16128	\$ 3366	\$ 4796	\$ 15532	\$ 20328	\$ 8119	\$ 1175	\$ 9294	\$ 435	173	\$ 49551
	NO	\$ 10654	\$ 8703	\$ 1451	\$ 275	\$ 21083	\$ 3455	\$ 2510	\$ 9017	\$ 11527	\$ 9446	\$ 1944	\$ 11390	\$ 705	173	\$ 48160
OTHER AGE 0-6	YES	\$ 7113	\$ 8516	\$ 756	\$ 297	\$ 16682	\$ 3444	\$ 1594	\$ 9113	\$ 10707	\$ 1778	\$ 953	\$ 2731	\$ 513	179	\$ 34077
	NO	\$ 7221	\$ 7791	\$ 525	\$ 152	\$ 15689	\$ 4187	\$ 2093	\$ 16615	\$ 18708	\$ 2161	\$ 842	\$ 3003	\$ 858	179	\$ 42445
OTHER AGE 7-21	YES	\$ 15899	\$ 15276	\$ 4133	\$ 191	\$ 35499	\$ 5122	\$ 3874	\$ 15174	\$ 19048	\$ 8958	\$ 4062	\$ 13020	\$ 1696	367	\$ 74385
	NO	\$ 13005	\$ 15867	\$ 4229	\$ 312	\$ 33413	\$ 6825	\$ 6929	\$ 26847	\$ 33776	\$ 9314	\$ 3025	\$ 12339	\$ 854	367	\$ 87207
TOTALS	YES	\$ 34676	\$ 33548	\$ 5799	\$ 799	\$ 74822	\$ 13502	\$ 10734	\$ 45927	\$ 56661	\$ 19505	\$ 6381	\$ 25886	\$ 2692	800	\$ 173563
	NO	\$ 34440	\$ 35365	\$ 6364	\$ 913	\$ 77082	\$ 15872	\$ 12911	\$ 57256	\$ 70167	\$ 22697	\$ 6104	\$ 28801	\$ 2477	800	\$ 194399



TABLE A.9: PER CAPITA MEDICAID EXPENDITURES BY THE SAMPLE POPULATION IN STATE 2, BY AGE/RACE STRATUM, SCREENING STATUS, AND SERVICE TYPE: 1976\*  
(ADJUSTED FOR PARTIAL YEARS OF ELIGIBILITY)

Recipient Group	S C R E E N E D	SERVICES														S A M P L E	T O T A L	D S E T A I N A D R O N S
		General Outpatient Services					RX	Inpatient-Related			Dental & Optical		Other					
		Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	T O T A L		Physician Prescriptions	Physician Other Visits	Inpatient Hospital Days	T O T A L	Dental Procedures	Optical Service Visits	T O T A L	Other Service Units			
WHITE AGE 0-6	YES	\$47.83	\$27.17	\$ 4.23	\$1.17	\$ 80.40	\$19.39	\$ 5.81	\$ 75.41	\$ 81.22	\$ 8.03	\$ 2.36	\$10.39	\$ 0.59	\$191.99	506.36		
	NO	43.95	37.09	1.97	2.15	85.16	17.35	17.02	58.98	76.00	21.93	3.62	25.55	0.74	204.80	341.77		
WHITE AGE 7-21	YES	45.02	43.67	3.28	1.25	93.22	19.46	27.72	89.77	117.49	46.93	6.79	53.72	2.51	286.40	934.29		
	NO	61.59	50.31	8.39	1.59	121.88	19.97	14.51	52.12	66.63	54.61	11.24	65.85	4.08	278.41	436.93		
OTHER AGE 0-6	YES	39.74	47.58	4.22	1.66	93.19	19.24	8.91	50.92	59.83	9.93	5.32	15.25	2.86	190.38	428.12		
	NO	40.34	43.52	2.94	0.85	87.65	23.39	11.69	92.82	104.51	12.07	4.70	17.77	4.79	237.11	751.40		
OTHER AGE 7-21	YES	43.32	41.63	11.26	0.52	96.73	13.96	10.56	41.35	51.91	24.41	11.07	35.48	4.62	202.70	499.74		
	NO	35.44	43.23	11.52	0.85	91.04	18.60	18.88	73.15	92.03	25.38	8.24	33.62	2.33	257.62	445.77		
TOTALS	YES (S.D.)	43.35 (102.47)	41.94 (117.44)	7.25 (45.26)	1.00 (9.20)	93.54 (182.40)	16.88 (39.43)	3.42 (78.35)	57.41 (455.89)	70.83 (507.00)	24.38 (87.59)	7.98 (20.14)	32.36 (91.25)	3.37 (18.65)	216.98 (608.42)			
	NO (S.D.)	43.05 (103.67)	44.21 (107.53)	7.96 (89.14)	1.14 (7.63)	96.36 (178.75)	19.84 (34.56)	16.14 (66.73)	71.57 (392.15)	87.71 (433.15)	28.37 (82.40)	7.63 (19.38)	36.00 (86.22)	3.10 (12.87)	243.01 (519.65)			

\* = Differences between screened and unscreened people were not statistically significant

† S.D. = Standard Deviation





TABLE A.10: PERCENT DIFFERENCE IN UTILIZATION PER CAPITA, COST PER CAPITA, AND COST PER UNIT OF SERVICE BETWEEN EPSDT SAMPLE POPULATION AND NON-EPSDT SAMPLE POPULATION - STATE 2, 1976\*

DATA GROUP	SERVICES												TOTAL
	General Outpatient Services					RX	Inpatient Related			Dental & Optical		Other	
	Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	TOTAL		Pharmaceutical Prescriptions	Physician Other Visits	Inpatient Hospital Days	TOTAL	Dental Procedures		
UTILIZATION/ CAPITA	- 5%	- 5%	25%	68%	- 3%	- 14%	2%	- 20%	- 14%	- 9%	4%	- 8%	
COST/CAPITA	1%	- 5%	- 9%	- 12%	- 3%	- 15%	- 17%	- 20%	- 19%	- 10%	5%	- 11%	
COST/UNIT OF SERVICE	6%	- 1%	-27%	- 48%	0%	- 1%	- 18%	1%	- 6%	- 5%	0%	- 2%	

\*Negative figures indicate lower values for screened than for unscreened eligibles.



## APPENDIX B

### 1975 Utilization and Expenditure Tables\*

\*Data displayed on these tables are not identical to those presented in previous reports, as 1975 data was re-abstracted for State 2 and machine-computed for both states (prior 1975 figures had been hand-tallied).



TABLE B.1: MEDICAID UTILIZATION BY THE SAMPLE POPULATION IN STATE 1, BY AGE/RACE STRATUM, SCREENING STATUS, AND SERVICE TYPE; 1975

Recipient Group	S C R E E N E D	SERVICES												S A M P L E	T O T A L S	
		General Outpatient Services					RX	Inpatient-Related			Dental & Optical					Other
		Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	TOTAL		Pharmaceutical Prescriptions	Physician Other Visits	Inpatient Hospital Days	TOTAL	Dental Procedures	Optical Service Visits			
WHITE AGE 0-6	YES	80	34	20	1	135	95	16	5	21	34	1	35	5	291	
	NO	82	11	6	1	100	96	15	5	20	40	5	45	0	261	
WHITE AGE, 7-21	YES	330	104	46	9	489	291	91	36	127	685	21	706	31	1644	
	NO	263	89	61	0	413	291	31	26	57	492	8	500	1	1262	
OTHER AGE 0-6	YES	228	47	52	2	329	260	56	9	65	121	10	131	0	785	
	NO	329	20	4	1	354	293	42	33	75	76	2	78	0	800	
OTHER AGE 7-21	YES	843	256	200	21	1320	969	274	238	512	2924	93	3017	12	5830	
	NO	1078	262	149	5	1494	1423	132	229	361	2230	83	2313	214	5805	
TOTALS	YES	1481	441	318	33	2273	1615	437	288	725	3764	125	3889	48	8550	
	NO	1752	382	220	7	2361	2103	220	293	513	2838	98	2936	215	8128	





TABLE B.2: PER CAPITA MEDICAID UTILIZATION BY THE SAMPLE POPULATION IN STATE 1,  
BY AGE/RACE STRATUM, SCREENING STATUS, AND SERVICE TYPE: 1975

Recipient Group	S C R E E N E D	SERVICES													S A M P L E	T O T A L S	D E T A I L E D S
		General Outpatient Services					RX	Inpatient-Related			Dental & Optical		Other				
		Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	T O T A L		Pharma- ceutical Prescrip- tions	Physician Other Visits	Inpatient Hospital Days	T O T A L	Dental Procedures		Optical Service Visits			
WHITE AGE 0-6	YES	2.17	0.93	0.54	0.02	3.66	2.56	0.44	0.15	0.59	0.93	0.02	0.95	0.12	37	7.88	7.28
	NO	2.22	0.29	0.17	0.02	2.70	2.59	0.41	0.15	0.56	1.07	0.12	1.19	0.0	37	7.04	6.98
WHITE AGE 7-24	YES	2.52	0.79	0.35	0.07	3.73	2.22	0.69	0.27	0.96	5.23	0.16	5.39	0.23	131	12.53	13.00
	NO	2.01	0.68	0.46	0.0	3.15	2.22	0.23	0.20	0.43	3.76	0.06	3.82	0.01	131	9.63	11.19
OTHER AGE 0-6	YES	2.96	0.61	0.67	0.02	4.26	3.38	0.73	0.12	0.85	1.58	0.13	1.71	0.0	77	10.20	11.89
	NO	4.28	0.26	0.05	0.01	4.60	3.80	0.55	0.43	0.98	0.99	0.02	1.01	0.0	77	10.39	9.99
OTHER AGE 7-24	YES	1.52	0.46	0.36	0.04	2.38	1.75	0.49	0.43	0.92	5.27	0.17	5.44	0.02	555	10.51	11.63
	NO	1.94	0.47	0.27	0.01	2.69	2.57	0.24	0.41	0.65	4.02	0.15	4.17	0.39	555	10.47	15.85
TOTALS	YES (S.D.)	1.85 (3.75)	0.55 (1.39)	0.40 (1.21)	0.04** (0.22)	2.84 (4.56)	2.02** (3.43)	0.55** (2.27)	0.36 (1.62)	0.91 (3.50)	4.71** (7.81)	0.16 (0.51)	4.87** (7.85)	0.06 (0.81)	800	10.70 (11.75)	
	NO (S.D.)	2.19 (3.49)	0.48 (1.51)	0.27 (1.88)	0.04** (0.09)	2.95 (4.76)	2.63** (4.57)	0.28** (1.73)	0.37 (1.58)	0.65 (3.09)	3.55** (6.51)	0.12 (0.49)	3.67** (6.53)	0.27 (7.93)	800	10.17 (14.38)	

† S.D. = Standard Deviation

\* = Difference between screened and unscreened people is statistically significant at the .05 level

\*\* = Difference between screened and unscreened people is statistically significant at the .01 level



TABLE B.3: MEDICAID EXPENDITURES BY THE SAMPLE POPULATION IN STATE 1, BY AGE/RACE STRATUM, SCREENING STATUS, AND SERVICE TYPE: 1975

Recipient Group	S C R E E N E D	SERVICES														S A M P L E S	T O T A L S
		General Outpatient Services					RX	Inpatient-Related			Dental & Optical			Other			
		Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	T O T A L		Pharmaceutical Prescriptions	Physician Other Visits	Inpatient Hospital Days	T O T A L	Dental Procedures	Optical Service Visits	T O T A L	Other Service Units		
WHITE AGE 0-6	YES	\$ 859	\$ 1061	\$ 226	\$ 9	\$ 2155	\$ 315	\$ 488	\$ 631	\$ 1119	\$ 270	\$ 27	\$ 297	\$ 55	\$ 3941		
	NO	\$ 1880	\$ 328	\$ 79	\$ 9	\$ 1296	\$ 339	\$ 500	\$ 732	\$ 1232	\$ 331	\$ 86	\$ 417	\$ 0	\$ 3284		
WHITE AGE 7-21	YES	\$ 4083	\$ 3614	\$ 966	\$ 80	\$ 8743	\$ 1171	\$ 2628	\$ 3353	\$ 5981	\$ 6187	\$ 700	\$ 6887	\$ 568	\$ 23350		
	NO	\$ 2904	\$ 2717	\$ 987	\$ 0	\$ 6608	\$ 1241	\$ 1405	\$ 2714	\$ 4119	\$ 4799	\$ 161	\$ 4960	\$ 23	\$ 16951		
OTHER AGE 0-6	YES	\$ 2085	\$ 1761	\$ 555	\$ 20	\$ 4421	\$ 927	\$ 1066	\$ 1227	\$ 2293	\$ 1229	\$ 251	\$ 1480	\$ 0	\$ 4121		
	NO	\$ 2903	\$ 463	\$ 43	\$ 9	\$ 3418	\$ 971	\$ 1363	\$ 3815	\$ 5178	\$ 589	\$ 25	\$ 614	\$ 0	\$ 10181		
OTHER AGE 7-21	YES	\$ 9937	\$ 7238	\$ 2477	\$ 246	\$ 19898	\$ 3890	\$ 11057	\$ 21502	\$ 32559	\$ 26627	\$ 2689	\$ 29316	\$ 344	\$ 26907		
	NO	\$ 10501	\$ 8005	\$ 1553	\$ 48	\$ 20107	\$ 5253	\$ 6200	\$ 26539	\$ 32739	\$ 20949	\$ 1887	\$ 22836	\$ 3456	\$ 84391		
TOTALS	YES	\$ 16964	\$ 13674	\$ 4224	\$ 355	\$ 35217	\$ 6303	\$ 15239	\$ 26713	\$ 41952	\$ 34313	\$ 3667	\$ 37980	\$ 967	\$ 122119		
	NO	\$ 17188	\$ 11513	\$ 2662	\$ 66	\$ 31429	\$ 7804	\$ 9468	\$ 33800	\$ 43268	\$ 26668	\$ 2159	\$ 28827	\$ 3479	\$ 114307		





TABLE B.4: PER CAPITA MEDICAID EXPENDITURES BY THE SAMPLE POPULATION IN STATE 1, BY AGE/RACE STRATUM, SCREENING STATUS, AND SERVICE TYPE: 1975

Recipient Group	S C R E E N E D	SERVICES												S A N N A L S	T O T A L S	D E T A I L E D S	
		General Outpatient Services					RX	Inpatient-Related			Dental & Optical		Other				
		Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	T O T A L		Pharma- ceutical Prescrip- tions	Physician Other Visits	Inpatient Hospital Days	T O T A L	Dental Procedures					Optical Service Visits
WHITE  AGE 0-6	YES	\$ 23.21	\$ 28.69	\$ 6.12	\$ 0.24	\$ 58.26	\$ 8.50	\$ 13.20	\$ 17.04	\$ 30.24	\$ 7.29	\$ 0.73	\$ 8.02	\$ 1.49	37	\$106.51	155.92
	NO	\$ 23.77	\$ 8.87	\$ 2.15	\$ 0.24	\$ 35.03	\$ 9.15	\$ 13.51	\$ 19.78	\$ 33.29	\$ 8.95	\$ 2.31	\$ 11.26	\$ 0.0	37	\$ 88.73	149.90
WHITE  AGE 7-21	YES	\$ 31.16	\$ 27.59	\$ 7.38	\$ 0.61	\$ 66.74	\$ 8.94	\$ 20.06	\$ 25.59	\$ 45.65	\$ 47.23	\$ 5.34	\$ 52.57	\$ 4.34	131	\$178.24	267.50
	NO	\$ 22.17	\$ 20.74	\$ 7.53	\$ 0.0	\$ 50.44	\$ 9.48	\$ 10.72	\$ 20.72	\$ 31.44	\$ 36.64	\$ 1.23	\$ 37.87	\$ 0.17	131	\$129.40	244.75
OTHER  AGE 0-6	YES	\$ 27.07	\$ 22.87	\$ 7.21	\$ 0.26	\$ 57.41	\$ 12.03	\$ 13.85	\$ 15.94	\$ 29.79	\$ 15.96	\$ 3.26	\$ 19.22	\$ 0.0	77	\$118.45	190.45
	NO	\$ 37.70	\$ 6.01	\$ 0.56	\$ 0.12	\$ 44.39	\$ 12.62	\$ 17.70	\$ 49.55	\$ 67.25	\$ 7.65	\$ 0.33	\$ 7.98	\$ 0.0	77	\$132.24	225.64
OTHER  AGE 7-21	YES	\$ 17.91	\$ 13.04	\$ 4.46	\$ 0.44	\$ 35.85	\$ 7.01	\$ 19.92	\$ 38.75	\$ 58.67	\$ 47.98	\$ 4.85	\$ 52.83	\$ 0.62	555	\$154.98	259.58
	NO	\$ 18.92	\$ 14.43	\$ 2.80	\$ 0.09	\$ 36.24	\$ 9.47	\$ 11.17	\$ 47.82	\$ 58.99	\$ 37.75	\$ 3.40	\$ 41.15	\$ 6.23	555	\$152.08	354.63
TOTALS	YES (S.D.)	\$ 21.21 (43.72)	\$ 17.10 (42.37)	\$ 5.28* (19.23)	\$ 0.44** (2.46)	\$ 44.03 (73.74)	\$ 7.88* (14.50)	\$ 19.05* (67.85)	\$ 33.39 (141.79)	\$ 52.44 (197.80)	\$ 42.90* (84.29)	\$ 4.58* (15.13)	\$ 47.48 (185.75)	\$ 1.21 (17.31)	800	\$153.04 (251.45)	
	NO (S.D.)	\$ 21.49 (42.16)	\$ 14.39 (57.88)	\$ 3.33* (12.07)	\$ 0.08** (0.94)	\$ 39.29 (84.46)	\$ 9.76* (18.97)	\$ 11.84* (49.17)	\$ 42.25 (183.50)	\$ 54.09 (221.51)	\$ 53.34* (75.02)	\$ 2.70** (10.88)	\$ 56.04 (76.75)	\$ 4.35 (128.00)	800	\$143.53 (320.99)	

† S.D. = Standard Deviation

\* = Difference between screened and unscreened people is statistically significant at the .05 level.

\*\* = Difference between screened and unscreened people is statistically significant at the .01 level.



TABLE B.5: PERCENT DIFFERENCE IN UTILIZATION PER CAPITA, COST PER CAPITA, AND COST PER UNIT OF SERVICE BETWEEN EPSDT SAMPLE POPULATION AND NON-EPSDT SAMPLE POPULATION - STATE 1, 1975\*

DATA GROUP	SERVICES												TOTAL	
	General Outpatient Services					RX	Inpatient-Related			Dental & Optical				Other Service Units
	Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	TOTAL	Pharma-central Prescrip-tions	Physician Other Visits	Inpatient Hospital Days	TOTAL	Dental Procedures	Optical Service Visits	TOTAL		
UTILIZATION/ CAPITA	- 15%	15%	45%	371%	- 4%	- 23%	99%	- 2%	41%	33%	28%	32%	- 78%	5%
COST/CAPITA	- 1%	19%	59%	438%	12%	- 19%	61%	- 21%	- 3%	29%	70%	32%	- 72%	7%
COST/UNIT OF SERVICE	17%	3%	10%	14%	16%	5%	- 19%	- 20%	- 31%	- 3%	33%	- 1%	25%	1%

\*Negative figures indicate lower values for screened than for unscreened eligibles.



TABLE B.6: MEDICAID UTILIZATION BY THE SAMPLE POPULATION IN STATE 2, BY AGE/RACE STRATUM, SCREENING STATUS, AND SERVICE TYPE: 1975

Recipient Group	S C R E E N E D	SERVICES													S A M P L E	T O T A L S		
		General Outpatient Services						RX	Inpatient-Related			Dental & Optical					Other	
		Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	T O T A L	Pharma- ceutical Prescrip- tions		Physician Other Visits	Inpatient Hospital Days	T O T A L	Dental Procedures	Optical Service Visits	T O T A L			Other Service Units	
WHITE AGE 0-6	YES	329	67	14	15	425	480	14	41	55	137	13	150	16	1126			
	NO	302	71	6	19	398	447	14	24	38	152	7	159	8	1050			
WHITE AGE 7-21	YES	518	106	14	13	651	791	57	52	109	946	85	1031	43	2625			
	NO	476	166	38	21	701	736	29	121	150	1104	74	1178	36	2801			
OTHER AGE 0-6	YES	601	175	61	11	848	985	33	102	135	230	41	271	57	2296			
	NO	721	201	31	9	962	1244	48	150	198	287	25	312	87	2803			
OTHER AGE 7-21	YES	850	256	109	11	1226	1492	51	128	179	1874	234	2108	196	5201			
	NO	923	465	54	16	1458	1505	110	401	511	1495	179	1674	122	5270			
TOTALS	YES	2298	604	198	50	3150	3748	155	323	478	3187	373	3560	312	11248			
	NO	2422	903	129	65	3519	3932	201	696	897	3038	285	3323	253	11924			





TABLE B.7: PER CAPITA MEDICAID UTILIZATION BY THE SAMPLE POPULATION IN STATE 2, BY AGE/RACE STRATUM, SCREENING STATUS, AND SERVICE TYPE: 1975

Recipient Group	S C R E E N E D	SERVICES											S A N P L E	T O T A L S	S E T T I N G S	
		General Outpatient Services					RX	Inpatient Related			Dental & Optical					Other
		Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	TOTAL		Pharmaceutical Prescriptions	Physician Other Visits	Inpatient Hospital Days	TOTAL	Dental Procedures				
WHITE AGE 0-6	YES	4.06	0.83	0.17	0.18	5.92	0.17	0.50	0.67	1.69	0.16	1.85	81	13.87	12.33	
	NO	3.73	0.88	0.07	0.24	5.52	0.17	0.29	0.46	1.88	0.09	1.97	81	12.96	12.13	
WHITE AGE 7-21	YES	3.00	0.61	0.08	0.07	4.57	0.33	0.30	0.63	5.47	0.49	5.96	173	15.17	14.86	
	NO	2.75	0.96	0.22	0.12	4.26	0.17	0.70	0.87	6.38	0.43	6.81	173	16.20	14.28	
OTHER AGE 0-6	YES	3.36	0.98	0.34	0.06	5.51	0.19	0.57	0.76	1.28	0.23	1.51	179	12.84*	11.06	
	NO	4.03	1.12	0.18	0.05	6.95	0.27	0.84	1.11	1.60	0.14	1.74	179	15.67*	14.83	
OTHER AGE 7-21	YES	2.31	0.70	0.30	0.03	4.06	0.14	0.35	0.49	5.11	0.64	5.75	367	14.18	11.77	
	NO	2.51	1.27	0.15	0.04	4.10	0.30	1.09	1.39	4.07	0.49	4.56	367	14.35	17.75	
TOTALS	YES (S.D.)	2.87 (3.55)	0.76* (1.59)	0.25* (0.69)	0.06 (0.38)	4.68 (5.77)	0.19 (0.74)	0.40* (2.31)	0.59** (2.78)	3.98 (7.12)	0.47** (0.91)	4.45 (7.30)	800	14.05 (12.41)		
	NO† (S.D.)	3.03 (3.80)	1.13* (4.47)	0.16* (0.83)	0.08 (0.44)	4.92 (7.34)	0.25 (0.94)	0.87* (4.60)	1.12** (4.96)	3.80 (7.29)	0.36** (0.78)	4.16 (7.40)	800	14.92 (15.90)		

†S.D. = Standard Deviation

\* = Difference between screened and unscreened people is statistically significant at the .05 level

\*\* = Difference between screened and unscreened people is statistically significant at the .01 level



TABLE B.8: MEDICAID EXPENDITURES BY THE SAMPLE POPULATION IN STATE 2, BY AGE/RACE STRATUM, SCREENING STATUS, AND SERVICE TYPE: 1975

Recipient Group	S C R E E N E D	SERVICES											S A M P L E	T O T A L	
		General Outpatient Services					RX	Inpatient-Related			Dental & Optical				Other Service Dolls
		Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	T O T A L		Pharma- centical Prescrip- tions	Physician Other Visits	Inpatient Hospital Days	T O T A L	Dental Procedures			
WHITE AGE 0-6	YES	\$3568	\$2708	\$387	\$137	\$6800	\$2000	\$1141	\$5058	\$6199	\$708	\$241	\$245	\$16193	
	NO	\$3700	\$2293	\$73	\$193	\$6259	\$1780	\$729	\$2658	\$3387	\$1044	\$108	\$117	\$12695	
WHITE AGE 7-21	YES	\$7889	\$4438	\$712	\$165	\$13204	\$3621	\$3124	\$6002	\$9126	\$6312	\$1663	\$499	\$34425	
	NO	\$8095	\$6634	\$1143	\$255	\$16127	\$3363	\$1723	\$7634	\$9357	\$6759	\$1517	\$794	\$37917	
OTHER AGE 0-6	YES	\$5538	\$5599	\$1645	\$87	\$12869	\$3795	\$1939	\$14162	\$16101	\$1330	\$780	\$1092	\$35967	
	NO	\$7848	\$5837	\$623	\$74	\$14382	\$4900	\$1975	\$13804	\$20779	\$1535	\$484	\$1288	\$43368	
OTHER AGE 7-21	YES	\$11710	\$9399	\$3910	\$89	\$25108	\$6313	\$3323	\$15651	\$18974	\$13384	\$4653	\$3434	\$71866	
	NO	\$11932	\$10959	\$3043	\$183	\$26117	\$7183	\$8078	\$51950	\$60028	\$10950	\$3398	\$2156	\$109832	
TOTALS	YES	\$28705	\$22144	\$6654	\$478	\$57981	\$15729	\$9527	\$40873	\$50400	\$21734	\$7337	\$5270	\$158451	
	NO	\$31575	\$25723	\$4882	\$705	\$62885	\$17226	\$12505	\$81046	\$93551	\$20288	\$5507	\$4355	\$203812	





TABLE B.9: PER CAPITA MEDICAID EXPENDITURES BY THE SAMPLE POPULATION IN STATE 2, BY AGE/RACE STRATUM, SCREENING STATUS, AND SERVICE TYPE: 1975

Recipient Group	S C R E E N E D	SERVICES											S A M P L E	T O T A L S	D I S T R I B U T I O N	
		General Outpatient Services					RX	Inpatient-Related		Dental & Optical						Other Service Units
		Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	T O T A L		Pharma- ceutical Prescrip- tions	Physician Other Visits	Inpatient Hospital Days	T O T A L	Dental Procedures				
WHITE AGE 0-6	YES	\$44.05	\$33.43	\$4.77	\$1.70	\$83.95	\$24.70	\$14.08	\$62.45	\$76.53	\$8.75	\$2.97	\$11.72	\$3.02	\$199.92	537.88
	NO	\$45.68	\$28.31	\$0.90	\$2.39	\$77.28	\$21.98	\$8.99	\$32.82	\$41.81	\$12.89	\$1.34	\$14.23	\$1.44	\$156.74	
WHITE AGE 7-21	YES	\$45.60	\$25.66	\$4.12	\$0.96	\$76.34	\$20.93	\$18.06	\$34.70	\$52.76	\$36.49	\$9.61	\$46.10	\$2.88	\$199.01	333.83
	NO	\$46.80	\$38.35	\$6.61	\$1.47	\$93.23	\$19.44	\$9.96	\$44.13	\$54.09	\$39.07	\$8.77	\$47.84	\$4.59	\$219.19	
OTHER AGE 0-6	YES	\$30.94	\$31.28	\$9.19	\$0.49	\$71.90	\$21.20	\$10.83	\$79.11	\$89.94	\$7.43	\$4.36	\$11.79	\$6.10	\$200.93	571.16
	NO	\$43.85	\$32.61	\$3.48	\$0.42	\$80.36	\$27.37	\$11.03	\$105.05	\$116.08	\$8.58	\$2.70	\$11.28	\$7.19	\$242.28	
OTHER AGE 7-21	YES	\$31.91	\$25.61	\$10.65	\$0.24	\$68.41	\$17.20	\$9.06	\$42.65	\$51.71	\$36.47	\$12.68	\$49.15	\$9.36	\$195.83*	313.65
	NO	\$32.51	\$29.86	\$8.29	\$0.50	\$71.16	\$19.57	\$22.01	\$141.56	\$163.57	\$29.84	\$9.26	\$39.10	\$5.87	\$299.27*	
TOTALS	YES + (S.D.)	\$35.88 (75.45)	\$27.68 (65.20)	\$8.32 (28.63)	\$0.60 (3.98)	\$72.48 (110.39)	\$19.66 (25.54)	\$11.91 (51.19)	\$51.09* (326.47)	\$63.00* (359.04)	\$27.17 (61.99)	\$9.17 (17.87)	\$36.34 (66.44)	\$6.59 (20.20)	\$198.07* (413.16)	
	NO + (S.D.)	\$39.47 (77.14)	\$32.15 (77.39)	\$6.10 (60.57)	\$0.88 (6.11)	\$78.60 (132.45)	\$21.53 (44.38)	\$15.63 (63.46)	\$101.31* (564.72)	\$116.94* (591.32)	\$25.36 (59.75)	\$6.88 (15.17)	\$32.24 (62.15)	\$5.44 (28.03)	\$254.75* (654.88)	

\* S.D. = Standard Deviation

\* = Difference between screened and unscreened people is statistically significant at the .05 level

\*\* = Difference between screened and unscreened people is statistically significant at the .01 level



TABLE B.10: PERCENT DIFFERENCE IN UTILIZATION PER CAPITA, COST PER CAPITA, AND COST PER UNIT OF SERVICE BETWEEN EPSDT SAMPLE POPULATION AND NON-EPSDT SAMPLE POPULATION - STATE 2, 1975\*

DATA GROUP	SERVICES											TOTAL		
	General Outpatient Services					RX	Inpatient Related		Dental & Optical				Other Service Units	
	Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	T O T A L		Pharmaceutical Prescriptions	Physician Other Visits	Inpatient Hospital Days	T O T A L	Dental Procedures			Optical Service Visits
UTILIZATION/ CAPITA	- 5%	- 33%	53%	- 23%	- 10%	- 5%	- 23%	- 54%	- 47%	5%	31%	7%	23%	- 6%
COST/CAPITA	- 9%	- 14%	36%	- 32%	- 8%	- 9%	- 24%	- 50%	- 46%	7%	33%	13%	21%	- 22%
COST/UNIT OF SERVICE	- 4%	29%	- 11%	- 12%	3%	- 4%	- 1%	9%	1%	2%	2%	5%	- 2%	- 18%

\*Negative figures indicate lower values for screened than for unscreened eligibles.



## APPENDIX C

### 1974 Utilization and Expenditure Tables\*

\*Data displayed on these tables are not identical to those presented in the 1974-1975 Analysis Report (June 7, 1977), as 1974 figures were adjusted for recipients with partial-years of eligibility.





TABLE C.1: MEDICAID UTILIZATION BY THE SAMPLE POPULATION IN STATE 1, BY AGE/RACE STRATUM, SCREENING STATUS, AND SERVICE TYPE: 1974  
(ADJUSTED FOR PARTIAL YEARS OF ELIGIBILITY)

Recipient Group	S C R E E N E D	SERVICES													S A M P L E	T O T A L	
		General Outpatient Services					RX	Inpatient-Related		Dental & Optical			Other				
		Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	T O T A L		Pharm- ceutical Prescrip- tions	Physician Other Visits	Inpatient Hospital Days	T O T A L	Dental Procedures		Optical Service Visits			T O T A L
WHITE AGE 0-6	YES	71	30	12	0	113	98	9	1	10	3	0	3	0	37	224	
	NO	79	9	9	2	99	135	10	11	21	3	2	5	0	37	260	
WHITE AGE 7-21	YES	217	49	49	3	318	273	58	81	139	284	16	300	0	131	1030	
	NO	176	73	98	1	348	342	37	144	181	275	31	306	4	131	1181	
OTHER AGE 0-6	YES	137	47	36	0	220	173	6	39	45	6	0	6	2	77	446	
	NO	225	13	15	5	258	317	5	7	12	39	0	39	0	77	626	
OTHER AGE 7-21	YES	607	102	115	9	833	859	75	124	199	1029	60	1089	8	555	2988	
	NO	871	162	102	11	1146	1468	95	226	321	1328	92	1420	3	555	4358	
TOTALS	YES	1032	228	212	12	1484	1403	148	245	393	1322	76	1398	10	800	4688	
	NO	1351	257	224	19	1851	2262	147	388	535	1645	125	1770	7	800	6425	



TABLE C.2: PER CAPITA MEDICAID UTILIZATION BY THE SAMPLE POPULATION IN STATE 1, BY AGE/RACE STRATUM, SCREENING STATUS, AND SERVICE TYPE: 1974 (ADJUSTED FOR PARTIAL YEARS OF ELIGIBILITY)

Recipient Group	S C R E E N E D	SERVICES													S A M P L E	T O T A L	D E V I A T I O N A L R O D S
		General Outpatient Services					RX	Inpatient-Related			Dental & Optical			Other			
		Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	T O T A L		Pharma- ceutical Prescrip- tions	Physician Other Visits	Inpatient Hospital Days	T O T A L	Dental Procedures	Optical Service Visits				
WHITE AGE 0-6	YES	1.92	0.82	0.33	0.0	3.07	2.66	0.24	0.02	0.26	0.07	0.0	0.07	37	6.06	10.13	
	NO	2.12	0.24	0.25	0.05	2.66	3.66	0.27	0.29	0.56	0.08	0.05	0.13	37	7.01	6.74	
WHITE AGE 7-21	YES	1.66	0.37	0.38	0.03	2.43	2.09	0.44	0.62	1.06	2.17	0.12	2.29	131	7.87	13.46	
	NO	1.34	0.56	0.75	0.01	2.66	2.61	0.28	1.10	1.38	2.10	0.23	2.33	131	9.01	11.82	
OTHER AGE 0-6	YES	1.78	0.61	0.46	0.0	2.85	2.25	0.08	0.51	0.58	0.08	0.0	0.08	77	5.80	8.31	
	NO	2.93	0.16	0.20	0.07	3.36	4.12	0.07	0.09	0.16	0.50	0.0	0.50	77	8.14	8.34	
OTHER AGE 7-21	YES	1.09	0.18	0.21	0.02	1.50	1.55	0.13	0.22	0.36	1.85	0.11	1.96	555	5.38	8.71	
	NO	1.57	0.29	0.18	0.02	2.07	2.65	0.17	0.41	0.58	2.39	0.16	2.56	555	7.85	10.62	
TOTALS	YES† (S.D.)	1.29** (3.08)	0.28 (0.99)	0.26 (1.07)	0.02 (0.14)	1.86** (3.61)	1.76** (3.72)	0.18 (0.96)	0.31 (2.15)	0.49 (2.84)	1.65 (4.84)	0.09* (0.50)	1.75 (4.88)	800 (9.70)	5.86**		
	NO† (S.D.)	1.69** (2.53)	0.32 (1.08)	0.28 (10.95)	0.02 (0.16)	2.31** (3.28)	2.83**	0.18	0.48	0.67	2.06	0.15*	2.21	800	8.03**		

† S.D. = Standard Deviation

\* = Difference between screened and unscreened people is statistically significant at the .05 level

\*\* = Difference between screened and unscreened people is statistically significant at the .01 level





TABLE C.3: MEDICAID EXPENDITURES BY THE SAMPLE POPULATION IN STATE 1, BY AGE/RACE STRATUM,  
SCREENING STATUS AND SERVICE TYPE: 1974  
(ADJUSTED FOR PARTIAL YEARS OF ELIGIBILITY)

Recipient Group	S C R E E N E D	SERVICES													S A M P L E	T O T A L	
		General Outpatient Services						RX	Inpatient-Related			Dental & Optical					Other
		Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	T O T A L	Pharma- ceutical Prescrip- tions		Physician Other Visits	Inpatient Hospital Days	T O T A L	Dental Procedures	Optical Service Visits	T O T A L			
WHITE AGE 0-6	YES	\$795	\$905	\$129	\$0	\$1829	\$369	\$159	\$115	\$274	\$23	\$0	\$23	\$0	\$2495		
	NO	\$849	\$177	\$108	\$16	\$1150	\$490	\$264	\$1126	\$1390	\$21	\$66	\$87	\$0	\$3117		
WHITE AGE 7-21	YES	\$2098	\$1261	\$1056	\$23	\$4438	\$1001	\$3097	\$7029	\$10126	\$4046	\$398	\$4444	\$0	\$20009		
	NO	\$1893	\$1459	\$1276	\$9	\$4637	\$1301	\$2193	\$10792	\$12985	\$2622	\$677	\$3299	\$933	\$23155		
OTHER AGE 0-6	YES	\$1293	\$1536	\$400	\$0	\$3229	\$565	\$158	\$1279	\$1437	\$118	\$0	\$118	\$10	\$5359		
	NO	\$2311	\$213	\$157	\$48	\$2729	\$1113	\$299	\$483	\$782	\$312	\$0	\$312	\$0	\$4936		
OTHER AGE 7-21	YES	\$6985	\$2328	\$1743	\$89	\$11145	\$3114	\$3688	\$11365	\$15053	\$9315	\$1546	\$10861	\$194	\$40367		
	NO	\$9544	\$4143	\$1168	\$95	\$14950	\$5733	\$6447	\$18473	\$24920	\$13042	\$1983	\$15025	\$351	\$60979		
TOTALS	YES	\$11171	\$6030	\$3328	\$112	\$20641	\$5049	\$7102	\$19788	\$26890	\$13502	\$1944	\$15446	\$204	\$68230		
	NO	\$14597	\$5992	\$2709	\$168	\$23466	\$8637	\$9203	\$30874	\$40077	\$15997	\$2726	\$18723	\$1284	\$92187		



TABLE C.4: PER CAPITA MEDICAID EXPENDITURES BY THE SAMPLE POPULATION IN STATE 1, BY AGE/RACE STRATUM, SCREENING STATUS, AND SERVICE TYPE: 1974  
(ADJUSTED FOR PARTIAL YEARS OF ELIGIBILITY)

Recipient Group	S C R E E N E D	SERVICES												S A N I T A P L E	T O T A L S	D S E T V A I N A D I A I R O D N		
		General Outpatient Services					RX	Inpatient-Related			Dental & Optical		Other					
		Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	T O T A L		Pharma- ceutical Prescrip- tions	Physician Other Visits	Inpatient Hospital Days	T O T A L	Dental Procedures					Optical Service Visits	T O T A L
WHITE AGE 0-6	YES	\$21.49	\$24.47	\$3.47	\$0.0	\$49.43	\$9.97	\$4.31	\$3.10	\$7.40	\$0.63	\$0.0	\$0.63	\$0.0	\$0.63	37	\$67.44	116.77
	NO	\$22.95	\$4.79	\$2.93	\$0.44	\$31.11	\$13.24	\$7.12	\$30.44	\$37.56	\$0.57	\$1.80	\$2.36	\$0.0	\$2.36	37	\$84.28	158.87
WHITE AGE 7-21	YES	\$16.02	\$9.62	\$8.06	\$0.18	\$33.88	\$7.64	\$23.64	\$53.66	\$77.30	\$30.88	\$3.04	\$33.92	\$0.0	\$33.92	131	\$152.74	432.34
	NO	\$14.45	\$11.14	\$9.74	\$0.07	\$35.40	\$9.93	\$16.74	\$82.38	\$99.12	\$20.01	\$5.17	\$25.18	\$7.12	\$25.18	131	\$176.76	363.20
OTHER AGE 0-6	YES	\$16.79	\$19.95	\$5.20	\$0.0	\$41.93	\$7.34	\$2.06	\$16.61	\$18.67	\$1.53	\$0.0	\$1.53	\$0.12	\$1.53	77	\$69.60	190.95
	NO	\$30.01	\$2.77	\$2.03	\$0.63	\$35.45	\$14.46	\$3.88	\$6.27	\$10.16	\$4.05	\$0.0	\$4.05	\$0.0	\$4.05	77	\$64.11	86.36
OTHER AGE 7-21	YES	\$12.59	\$4.19	\$3.14	\$0.16	\$20.08	\$5.61	\$6.65	\$20.48	\$27.13	\$16.79	\$2.79	\$19.57	\$0.35	\$19.57	555	\$72.74**	251.84
	NO	\$17.20	\$7.47	\$2.11	\$0.17	\$26.94	\$10.33	\$11.62	\$33.29	\$44.91	\$23.50	\$3.57	\$27.07	\$0.63	\$27.07	555	\$109.89**	291.66
TOTALS	YES + (S.D.)	** \$13.97 (30.03)	\$7.54 (32.64)	\$4.16 (25.64)	\$0.14 (1.26)	\$25.80 (54.63)	\$6.31** (13.53)	\$8.88 (63.55)	\$24.74 (209.14)	\$33.62 (251.94)	\$16.88 (69.90)	\$2.43 (12.50)	\$19.31 (71.42)	\$0.25 (3.52)	\$19.31 (71.42)	800	\$85.30** (281.72)	
	NO + (S.D.)	** \$18.25 (31.82)	\$7.49 (42.87)	\$3.39 (12.85)	\$0.21 (1.42)	\$29.34 (59.40)	\$10.80** (18.48)	\$11.50 (57.91)	\$38.60 (205.16)	\$50.10 (254.02)	\$20.00 (61.69)	\$3.41 (12.93)	\$23.41 (63.94)	\$1.60 (36.65)	\$23.41 (63.94)	800	\$115.25** (288.49)	

†S.D. = Standard Deviation

\* = Difference between screened and unscreened people is statistically significant at the .05 level

\*\* = Difference between screened and unscreened people is statistically significant at the .01 level









TABLE C.6: MEDICAID UTILIZATION BY THE SAMPLE POPULATION IN STATE 2, BY AGE/RACE STRATUM, SCREENING STATUS, AND SERVICE TYPE: 1974  
(ADJUSTED FOR PARTIAL YEARS OF ELIGIBILITY)

Recipient Group	S C R E E N E D	SERVICES												S A M P L E	T O T A L
		General Outpatient Services					RX	Inpatient-Related		Dental & Optical			Other		
		Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	T O T A L		Pharmaceutical Prescriptions	Physician Other Visits	Inpatient Hospital Days	T O T A L	Dental Procedures			
WHITE AGE 0-6	YES	294	78	0	9	381	431	11	23	34	130	14	144	7	997
	NO	372	70	4	16	462	479	31	120	151	85	13	98	20	1210
WHITE AGE 7-21	YES	371	111	13	8	503	458	25	88	113	422	73	495	29	1598
	NO	422	146	20	12	600	565	26	54	80	599	87	686	14	1945
OTHER AGE 0-6	YES	494	195	6	9	704	784	17	83	100	123	44	167	26	1781
	NO	680	249	15	20	964	1296	86	176	262	181	18	199	51	2772
OTHER AGE 7-21	YES	999	286	18	13	1316	1386	46	121	167	964	215	1179	96	4144
	NO	806	376	31	20	1233	1454	65	222	287	960	197	1157	55	4186
TOTALS	YES	2158	670	37	39	2904	3059	99	315	414	1639	346	1985	158	8520
	NO	2280	841	70	68	3259	3794	208	572	780	1825	315	2140	140	10113



TABLE C.7: PER CAPITA MEDICAID UTILIZATION BY THE SAMPLE POPULATION IN STATE 2, BY AGE/RACE STRATUM, SCREENING STATUS, AND SERVICE TYPE: 1974 (ADJUSTED FOR PARTIAL YEARS OF ELIGIBILITY)

Recipient Group	S C R E E N E D	SERVICES												S A M P L E S I Z E	T O T A L S	D E V I A T I O N S	
		General Outpatient Services					RX	Inpatient-Related			Dental & Optical						Other
		Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	TOTAL		Pharmaceutical Prescriptions	Physician Other Visits	Inpatient Hospital Days	TOTAL	Dental Procedures	Optical Service Visits				
WHITE AGE 0-6	YES	3.63	0.96	0.0	0.11	4.70	5.32	0.14	0.29	0.42	1.61	0.17	1.78	0.09	81	12.31	13.23
	NO	4.59	0.87	0.05	0.19	5.71	5.92	0.38	1.48	1.86	1.05	0.16	1.21	0.25	81	14.94	28.88
WHITE AGE 7-21	YES	2.14	0.64	0.07	0.05	2.90	2.65	0.14	0.51	0.65	2.44	0.42	2.86	0.17	173	9.23	15.18
	NO	2.44	0.85	0.11	0.07	3.47	3.27	0.15	0.31	0.46	3.46	0.50	3.96	0.08	173	11.24	12.10
OTHER AGE 0-6	YES	2.76	1.09	0.03	0.05	3.93	4.38	0.09	0.46	0.56	0.69	0.24	0.93	0.15	179	9.55	12.49
	NO	3.80	1.39	0.09	0.11	5.38	7.24	0.48	0.98	1.46	1.01	0.10	1.11	0.29	179	15.48	16.24
OTHER AGE 7-21	YES	2.72	0.78	0.05	0.04	3.59	3.78	0.13	0.33	0.46	2.63	0.59	3.21	0.26	367	11.29	22.31
	NO	2.20	1.02	0.08	0.05	3.36	3.96	0.18	0.60	0.78	2.62	0.54	3.15	0.15	367	11.41	14.77
TOTALS	YES (S.D.)	2.70 (6.21)	0.84 (2.01)	0.05 (0.36)	0.05* (0.33)	3.63 (7.54)	3.82* (8.44)	0.12** (0.66)	0.39 (2.68)	0.52* (2.88)	2.05 (5.47)	0.43 (1.09)	2.48 (5.76)	0.20 (1.26)	800	10.65* (18.19)	
	NO (S.D.)	2.85 (4.85)	1.05 (2.52)	0.09 (0.52)	0.09* (0.38)	4.07 (5.73)	4.74* (8.14)	0.26** (1.05)	0.71 (4.87)	0.97* (5.35)	2.28 (5.18)	0.39 (1.31)	2.68 (5.44)	0.18 (0.63)	800	12.64* (16.65)	

+ S.D. = Standard Deviation

\* = Difference between screened and unscreened people is statistically significant at the .05 level

\*\* = Difference between screened and unscreened people is statistically significant at the .01 level





TABLE C.8: MEDICAID EXPENDITURES BY THE SAMPLE POPULATION IN STATE 2, BY AGE/RACE STRATUM, SCREENING STATUS, AND SERVICE TYPE: 1974  
(ADJUSTED FOR PARTIAL YEARS OF ELIGIBILITY)

Recipient Group	S C R E E N E D	SERVICES													S A M P L E	T O T A L S
		General Outpatient Services					RX Pharmaceutical Prescriptions	Inpatient-Related			Dental & Optical		Other Service Units			
		Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	T O T A L		Physician Other Visits	Inpatient Hospital Days	T O T A L	Dental Procedures	Optical Service Visits		T O T A L		
WHITE AGE 0-6	YES	\$3738	\$1942	\$0	\$81	\$5761	\$1584	\$336	\$2226	\$2562	\$878	\$282	\$1160	\$111	\$11178	
	NO	\$4288	\$1873	\$320	\$182	\$6663	\$1754	\$1079	\$5547	\$6626	\$812	\$210	\$1022	\$398	\$16463	
WHITE AGE 7-21	YES	\$5167	\$3805	\$429	\$58	\$9459	\$2024	\$1456	\$3681	\$5137	\$4096	\$1371	\$5467	\$445	\$22532	
	NO	\$5922	\$5259	\$463	\$138	\$11782	\$2253	\$2531	\$5397	\$7928	\$5473	\$1614	\$7087	\$214	\$29264	
OTHER AGE 0-6	YES	\$5635	\$5980	\$193	\$87	\$11895	\$2870	\$1076	\$7546	\$8622	\$1317	\$866	\$2183	\$412	\$25982	
	NO	\$7240	\$6626	\$517	\$147	\$14530	\$4748	\$2553	\$16823	\$19376	\$1060	\$365	\$1425	\$820	\$40899	
OTHER AGE 7-21	YES	\$12869	\$7290	\$414	\$108	\$20681	\$5625	\$3383	\$13119	\$16502	\$8227	\$5003	\$13230	\$1811	\$57849	
	NO	\$9853	\$10271	\$832	\$216	\$21172	\$6250	\$4790	\$23167	\$27957	\$10087	\$3981	\$14068	\$1005	\$70452	
TOTALS	YES	\$27409	\$19017	\$1036	\$334	\$47796	\$12103	\$6251	\$26572	\$32823	\$14518	\$7522	\$22040	\$2779	\$117541	
	NO	\$27303	\$24029	\$2132	\$683	\$54147	\$15005	\$10953	\$50934	\$61887	\$17432	\$6170	\$23602	\$2437	\$157078	



TABLE C.9: PER CAPITA MEDICAID EXPENDITURES BY THE SAMPLE POPULATION IN STATE 2, BY AGE/RACE STRATUM, SCREENING STATUS, AND SERVICE TYPE: 1974  
(ADJUSTED FOR PARTIAL YEARS OF ELIGIBILITY)

Recipient Group	S C R E E N E D	SERVICES												S A M P L E	T O T A L	D S E T V A I N A T A I R O N	
		General Outpatient Services					RX	Inpatient-Related			Dental & Optical		Other				
		Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	T O T A L	Pharm- aceutical Prescrip- tions	Physician Other Visits	Inpatient Hospital Days	T O T A L	Dental Procedures	Optical Service Visits	T O T A L				Other Service Units
WHITE AGE 0-6	YES	\$46.15	\$23.98	\$0.0	\$1.00	\$71.13	\$19.56	\$4.15	\$27.49	\$31.64	\$10.85	\$3.48	\$14.33	\$1.37	81	\$138.03	204.47
	NO	\$52.94	\$23.13	\$3.95	\$2.24	\$82.26	\$21.66	\$13.33	\$68.48	\$81.81	\$10.02	\$2.60	\$12.62	\$4.92	81	\$203.26	457.89
WHITE AGE 7-21	YES	\$29.87	\$22.00	\$2.48	\$0.34	\$54.68	\$11.70	\$8.41	\$21.28	\$29.69	\$23.68	\$7.92	\$31.60	\$2.57	173	\$130.24	241.70
	NO	\$34.23	\$30.40	\$2.68	\$0.80	\$68.11	\$13.03	\$14.63	\$31.20	\$45.83	\$31.64	\$9.33	\$40.97	\$1.24	173	\$169.18	299.65
OTHER AGE 0-6	YES	\$31.48	\$33.41	\$1.08	\$0.49	\$66.46	\$16.03	\$6.01	\$42.16	\$48.17	\$7.36	\$4.84	\$12.20	\$2.30	179	\$145.16	319.28
	NO	\$40.45	\$37.02	\$2.89	\$0.82	\$81.18	\$26.53	\$14.26	\$93.99	\$108.26	\$5.92	\$2.04	\$7.96	\$4.58	179	\$228.52	476.65
OTHER AGE 7-21	YES	\$35.07	\$19.87	\$1.13	\$0.30	\$56.36	\$15.33	\$9.22	\$35.75	\$44.97	\$22.42	\$13.63	\$36.05	\$4.94	367	\$157.65	319.80
	NO	\$26.85	\$27.99	\$2.27	\$0.59	\$57.69	\$17.03	\$13.05	\$63.13	\$76.18	\$27.49	\$10.85	\$38.33	\$2.74	367	\$191.98	465.15
TOTALS	YES + (S.D.)	\$34.26 (85.36)	\$23.77 (72.49)	\$1.30 (11.95)	\$0.42* (3.00)	\$59.75 (128.69)	\$15.13* (33.55)	\$7.81* (42.88)	\$33.22* (187.78)	\$41.03* (206.12)	\$18.15 (62.57)	\$9.40 (32.34)	\$27.55 (72.48)	\$3.47 (26.95)	800	\$146.94** (294.01)	
	NO + (S.D.)	\$34.13 (63.63)	\$30.04 (88.15)	\$2.67 (22.64)	\$0.85* (4.65)	\$67.69 (115.15)	\$18.76* (32.70)	\$13.69* (59.13)	\$63.67* (319.43)	\$77.37* (356.33)	\$21.79 (63.07)	\$7.71 (27.17)	\$29.51 (69.14)	\$3.05 (12.14)	800	\$196.37** (436.41)	

†S.D. = Standard Deviation

\* = Difference between screened and unscreened people is statistically significant at the .05 level

\*\* = Difference between screened and unscreened people is statistically significant at the .01 level



TABLE C.10: PERCENT DIFFERENCE IN UTILIZATION PER CAPITA, COST PER CAPITA, AND COST PER UNIT OF SERVICE BETWEEN EPSDT SAMPLE POPULATION AND NON-EPSDT SAMPLE POPULATION - STATE 2, 1974\*

DATA GROUP	SERVICES										
	General Outpatient Services					Inpatient-Related		Dental & Optical		Other	TOTAL
	Physician Office Visits	Outpatient Hospital Visits	Outpatient Clinic Visits	Physician Emergency Visits	TOTAL	Pharmaceutical Prescriptions	Physician Other Visits	Inpatient Hospital Days	TOTAL		
UTILIZATION/ CAPITA	- 5%	- 20%	- 47%	- 43%	- 11%	- 19%	- 52%	- 45%	- 47%	- 10%	- 16%
COST/CAPITA	0%	- 21%	- 51%	- 51%	- 12%	- 19%	- 43%	- 48%	- 47%	- 17%	- 25%
COST/UNIT OF SERVICE	6%	- 1%	- 8%	- 15%	- 1%	9%	20%	- 5%	0%	- 7%	- 11%

\*Negative figures indicate lower values for screened than for unscreened eligibles.







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